29616

THE

# PRACTICAL HOUSE CARPENTER;

OR,

# YOUTH'S INSTRUCTOR:

CONTAINING

A GREAT VARIETY OF USEFUL

## *DESIGNS IN CARPENTRY AND ARCHITECTURE:*

As Centring for Groins, Niches, &c.
Examples for Roofs, Sky-Lights, &c.
The Five Orders laid down by a new Scale.
Mouldings, &c. at large with their Enrichments.
Plans, Elevations, and Section of Houses for Town and Country, Lodges, Hot-Houses, Green-Houses, Stables, &c.

Design for a Church, with Plan, Elevation, and Two Sections; an Altar Piece, and Pulpit.
Designs for Chimney-Pieces, Shop-Fronts, Door-Cases.
Section of a Dining-Room and Library.
Variety of Stair-Cases; with many other important Articles and useful Embellishments.

THE WHOLE ILLUSTRATED, AND MADE PERFECTLY EASY BY

## ONE HUNDRED AND FORTY-EIGHT COPPER-PLATES,

WITH EXPLANATIONS TO EACH.


By WILLIAM PAIN,

AUTHOR OF THE PRACTICAL BUILDER, BRITISH PALLADIO, &c.


*THE EIGHTH EDITION.*


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# CONTENTS.


Plate

1, 2, 3 *Centring for Groins, Arches, and Use of the Trammel.*

4 *Groins, Sky-lights, Niches, Polygons, Roofs, &c.*

5, 6 *Domes, Circular-circular Soffits.*

7 *to* 15 *To find the Length and Backing of Hips, square or bevel. Curb Roofs, Sections of Floors, Trussing Girders, Roofs in Ledgment.*

16 *to* 18 *Ionic Volute, glueing up Columns, and diminishing.*

19 *to* 28 *The Five Orders, showing the Measures and Proportion, to any Height required.*

29 *to* 31 *Doric, Ionic, and Corinthian Cornices, with Part of the Pediments to a large Scale.*

32 *to* 35 *Planceers of the Doric, Ionic, and Corinthian Orders, glueing up Caps.*

36, 37 *Corinthian and Composite Caps.*

38 *to* 44 *Frontispieces for Outside and Inside Doors.*

45 *to* 63 *Mouldings, Frize, and Cornice for Practice. Some of them full Size, and some half Size, with their proper Embellishments.*

64 *to* 78 *Stair-cases.*

79 *to* 88 *Designs for Chimnies, Doors, &c.*

89, 90 *Mouldings, with their proper Embellishments.*

91 *Vine Leaves and Grapes, Oak Leaves and Acorns.*

92 *to* 94 *Ceilings.*




95 *to*

## CONTENTS.


Plate

95 *to* 116 *Plans, Elevations, and Sections for Town and Country Houses; drawn by a Scale fixed to each Design.*

117 *to* 120 *Sections of a Library to Plate* 112.

121 *to* 124 *Sections of a Dining-room to ditto.*

125 *to* 127 *Designs for a Green-house, Hot-house, &c.*

128 *Coach-house and Stable.*

129 *Farm-house, Brew-house, and Laundry, with Farm-yard and Barn; adapted to a Nobleman or Gentleman's Country Seat.*

132 *Design for a Timber Bridge.*

133 *to* 135 *Design for a Church, with Sections two Ways.*

136, 137 *Designs for a Pulpit and Altar-piece.*

138, 139 *Vases and Pedestals for Sun-dials.*

140 *to* 145 *Designs for Shop-fronts.*

# A Table of Scantlings for cutting Timber for Buildings.

*I do not insist that the Scantlings of Timber ought to be exactly as by this Table, they must be varied, in many Instances, as the Workmen shall see needful.*

| Bearing Post of *Height.* | Oak Scantling. |
|---|---|
| 10 feet | 6 inches square |
| 12 | 8 bottom, 7 top |
| 14 | 10 —— 9 |
| 16 | 12 —— 11 |
| 18 | 14 —— 12 |
| 20 | 16 —— 14 |

| Bearing Post of *Height.* | Fir Scantling. |
|---|---|
| 8 feet | 8 inches square |
| 12 | 10 —— 8 |
| 14 | 12 —— 10 |
| 16 | 15 —— 12 |

| Girders of *Bearing.* | Oak Scantling. |
|---|---|
| 16 feet | 12 by 10 |
| 20 | 11 — 13 |
| 24 | 16 — 14 |

| Girders of *Bearing.* | Fir Scantling. |
|---|---|
| 16 feet | 11 by 13 inches |
| 20 | 12 — 15 |
| 24 | 14 — 16 |

| Joist of *Bearing.* | Oak Scantling. |
|---|---|
| 6 feet | 5 inches by 3 |
| 9 | $7\frac{1}{2}$ —— 3 |
| 12 | 12 —— 3 |

| Joist of *Bearing.* | Fir Scantling. |
|---|---|
| 6 feet | 6 by 3 inches |
| 9 | 9 — 3 |
| 12 | 12 — 3 |

| Bridging Joist of *Bearing.* | Oak Scantling. |
|---|---|
| 6 feet | 4 inches by 3 |
| 8 | $5\frac{1}{2}$ —— 3 |
| 10 | 7 —— 3 |

| Bridging Joist of *Bearing.* | Fir Scantling. |
|---|---|
| 6 feet | 5 inches by $3\frac{1}{2}$ |
| 8 | 6 —— $3\frac{1}{2}$ |
| 10 | 8 —— $3\frac{1}{2}$ |

| Principal Rafters of *Length.* | Oak Scantling. |
|---|---|
| 15 feet | 7 bottom, 5 top<br>6 inches thick |
| 20 | 8 bottom, 6 top<br>7 inches thick |
| 30 | 10 bottom, 8 top<br>8 inches thick |

| Principal Rafters of *Length.* | Fir Scantling. |
|---|---|
| 15 feet | 8 bottom, 7 top<br>6 inches thick |
| 20 | 9 bottom, 8 top<br>7 inches thick |
| 30 | 10 bottom, 9 top<br>8 inches thick |

| Beams or Ties of *Length or Bearing* | Oak Scantling. |
|---|---|
| 20 feet | 7 inches by 8 |
| 30 | 8 —— 10 |
| 40 | 10 —— 12 |
| 50 | 11 —— 13 |

| Beams or Ties of *Length or Bearing.* | Fir Scantling. |
|---|---|
| 20 feet | 8 inches by 9 |
| 30 | 9 —— 10 |
| 40 | 10 —— 12 |
| 50 | 11 —— 13 |

| Small Rafters of *Bearing.* | Fir or Oak Scantling. |
|---|---|
| 8 feet | 5 inches by 3 |
| 10 | 7 —— 3 |
| 12 | 9 —— 3 |

| Purlines. *Bearing.* | Scantling. |
|---|---|
| 8 feet | 8 inches by 6 |
| 10 | 9 —— 7 |
| 12 | 10 —— 8 |

# A Table of Sterling for casting Troies to Avoirdupois.

Plate 1.

*Fig E is a Groin on a Circular plan, with References for placing the Jack Ribs as a, b, c, d, e, f, the Ribs and hips are traced from the Rib A as 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12*

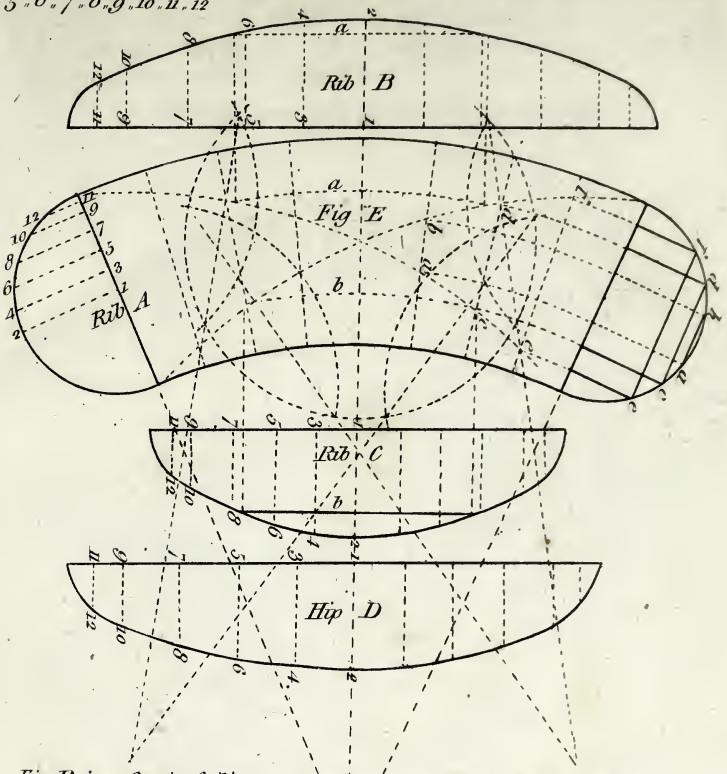



*Fig B is a Groin Ceiling on Bevel plan; the Hips and Jack Ribs traced from the Rib C as 1, 2, 3, 4, 5, 6, 7, 8, 9, 10*

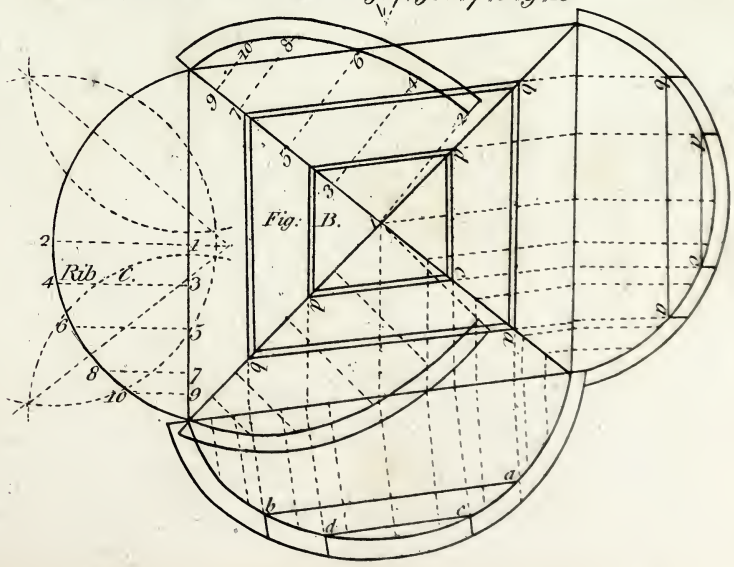
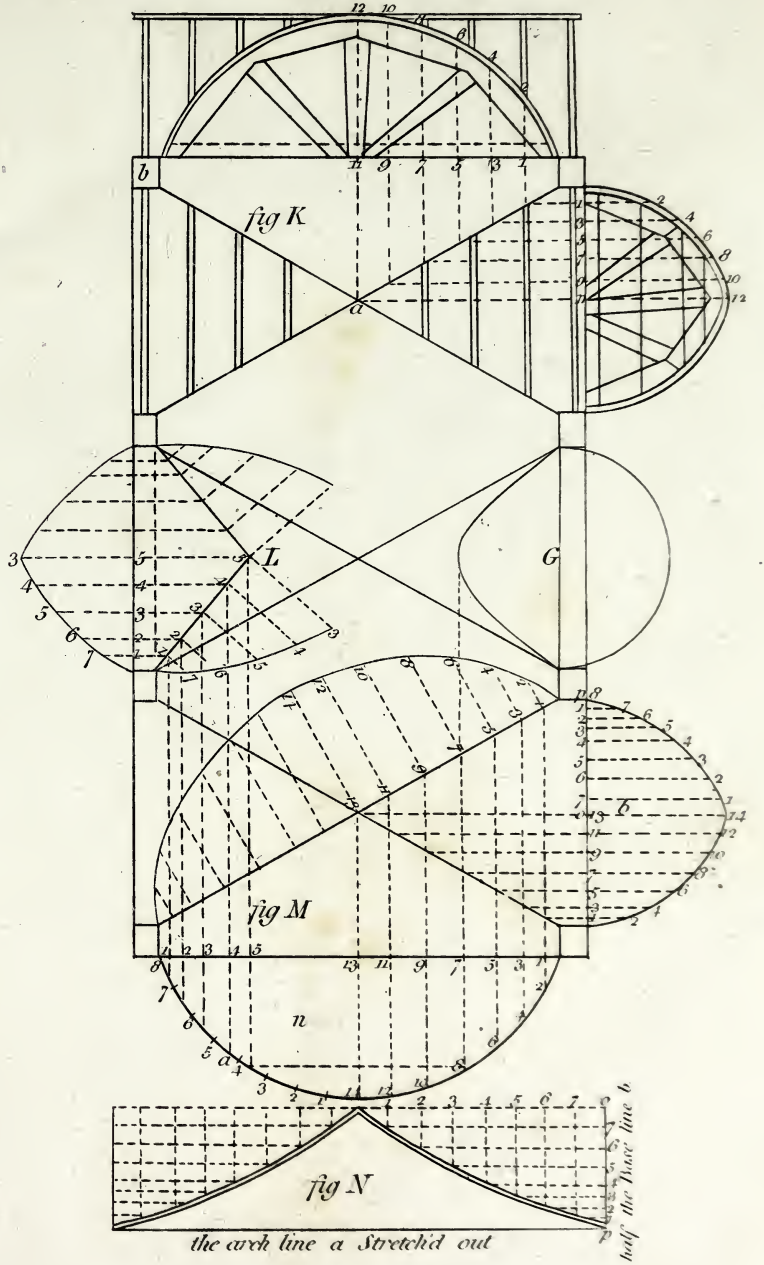
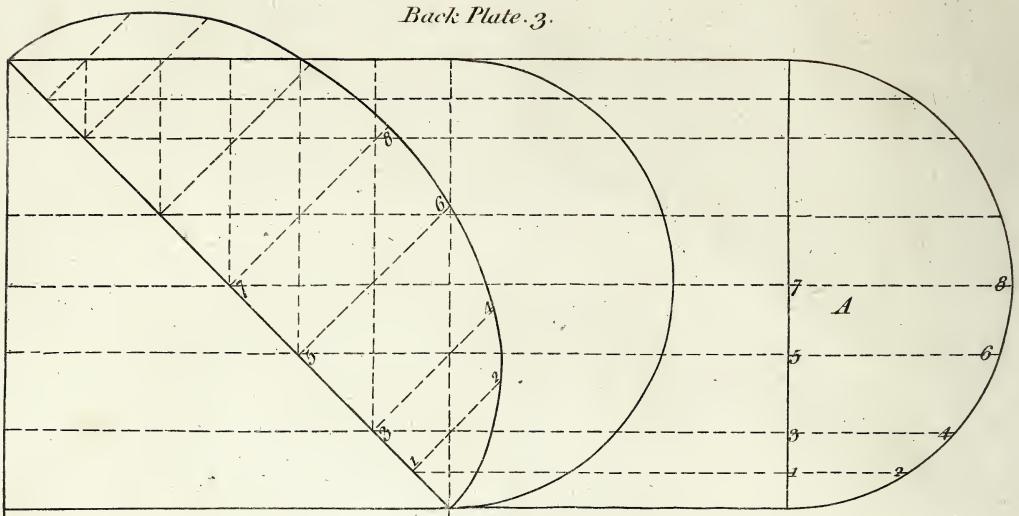


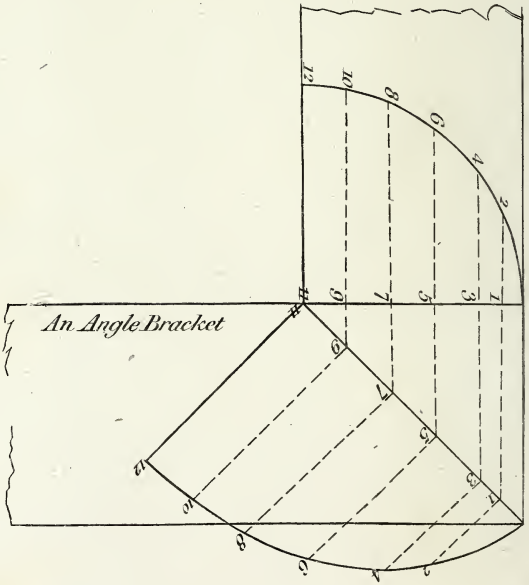
*Fig K Centering for Groins. L is a half Groin cutting under pitch for Door or Window. G is a welch Groin cutting under pitch. fig M is the method of tracing the Ribs and Hips for a Groin Ceiling. fig N is a Mould to bend over the Body Range. fig K to get the lines to Set the Jack Ribs by.*



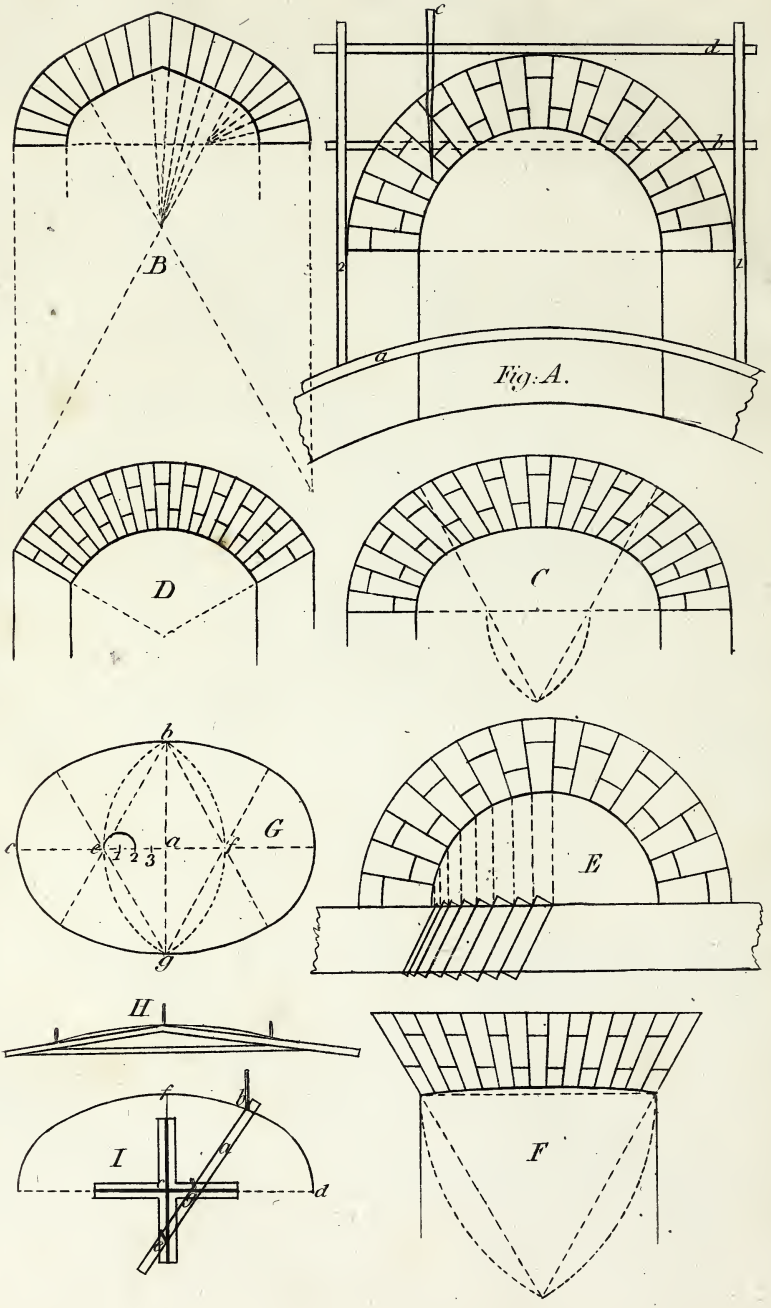
*Back Plate. 3.*




*A Groin on a returnd Angle which constitutes a Hip & Valley; the Hip traced from the given Rib A.*



*An Angle Bracket*


B
c
d
b
2
1
a
Fig: A.
D
C
b
a
G
1 2 3
g
E
H
I
f
b
a
d
F

*To face Plate* III.

## *The Construction of* ARCHES, GROINS, *&c.*

Fig. *A* is a circular arch in a circular wall; first make a centre to the soffit of the arch and to the curve of the wall on the plan, set the centre level, and fix two standards as 1.2 upright; then make two moulds to the curve of the wall as *a*, one of them to be fixed as *d*, the other moveable up and down at pleasure as *b*; when the springing course is cut, lay the next course on that, and with a long scriber as *c*, draw it by these circular moulds, which will mark what is to come off the top part of the brick; then mark the under side by the top edge, and it will shew how much is to come off the face of every course. By proceeding in this manner it will answer for any arch in a circular wall.

Fig. *B* is a Gothic arch with the centres shown.

Fig. *C* is a semi-ellipsis, which is best drawn by the tramel in practice, as fig. *I*, where the tramel is shown; take a rod as *a*, and make a hole for a pencil as at *b*, then take half the transverse diameter as *c d*, and put in a pin in the rod as at *e*; then take half the conjugate diameter as *c f*, and put in another pin as at *g*; and moving the rod round with the pins in the groove, the pencil at *b* will describe the arch.

Fig. *D* is a segment of an arch.

Fig. *E* is a circular arch on fluing jambs; the courses are dropped to the plan, which shows what is to come off the face of each course.

Fig. *F* is a scuback arch, which cambers one eighth of an inch in a foot on the soffit.

Fig. *G* shows the method for drawing an oval or ellipsis; take half the conjugate diameter *a b*, and set it on the transverse diameter *a* 1, from 1 to the centre *a*, divide it into three equal parts, and turn one of them out to *e*, than make *a f* equal to *a e*, and with the radius *e f* describe the ox-eye *b f g e*, draw the lines *b g*, *f g b*, and *e* will be the centres for drawing the ellipsis.

Fig. *H* is a tramel for drawing a flat segment.

## *To face Plate* IV.

Fig. *A* is a centring for groins; divide the base line of the given rib *b* into equal parts, and the base line of *c* into the same, and transfer from *b* to *c* as the figures direct.

Fig. *B* shows how to draw an oval to any given size: take half the conjugate, as *a b*, and set it on the transverse diameter, as *a d*, divide *d a* into three equal parts, and turn one of them to *e*; make *a f* equal to *e a*, and draw the lines *b f g* and *b e g*, which show the centres *b f g* for drawing the oval.

Fig. *C* is a dome on a circular plan; *a* and *b* shows the section of the horizontal rib.

*d* is a mould to lay out the angles over the body range, when boarded in, to set the jack ribs by.

Fig. *E* shows the method for tracing the hips for a groin ceiling: the rib *b* and hips *d d* are traced from the rib *a*. The plan shows the manner of the jack ribs cutting between the hips, when the hips are set.

Fig. *F* is a conical sky-light, showing how to bracket the angles of the ceiling under the curb; the hip mould *g* at the angle is traced from the rib *b*, and that mould would do to cut all the ribs at the angles, as shown at the angle *a*.

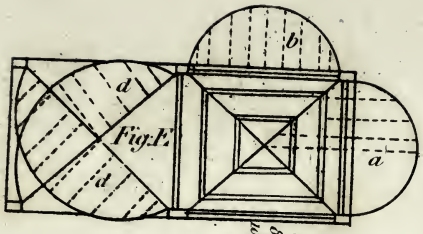
Fig. *G* is an ogee roof, whose plan is a pentagon, and shows the method for drawing any polygon figure to a given side; make a radius of the side, and draw the arches 2.6, divide one of those arches into six parts; turn them to the centre line, as shewn by the letters and figures 5 *d*, 4 *e*, &c.; the centre *c* will draw a circle to receive the side five times, 6 is the centre to receive six times, *d* seven times, and so on to *i*, which is the centre to draw the circle to receive the side twelve times.

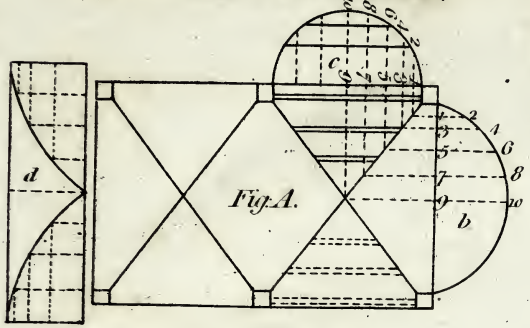
Fig. *H* is a dome, whose plan is a hexagon, and shows how to divide a circle into any number of parts: divide one fourth part of the circle into the number of parts you would have the circle, as 1. 2. 3. 4. 5. 6; and always take four of them; to find the backing of the curve line hips, lay down the plan of the hip at the angle, as *a*, then take the distance 1. 2 from the plan of the hip, and set 1. 2 at bottom, tack in a nail, and shift the hip mould, and marking by it as 1 2, 3 4, 5 6, 7 8, 9, 10, will show the wood to come off.

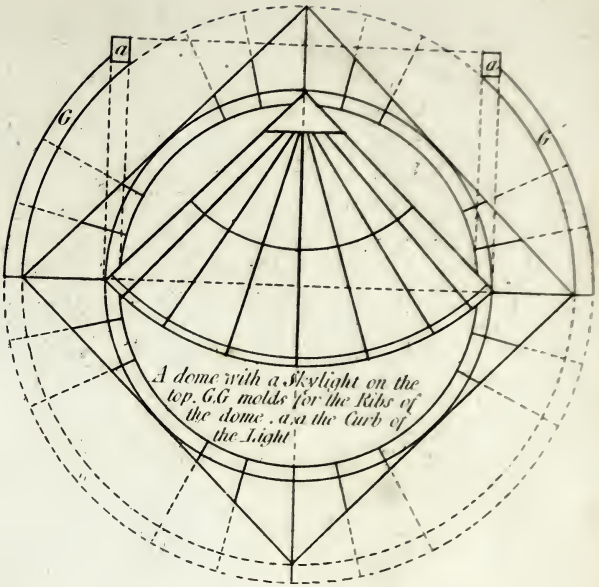
Fig. *I* to draw a perpendicular at the end of a line as *a d c*; at any opening of the compasses, as suppose *d b*, draw the line *d c*, from *a* draw a line through the centre *b*, and where it cuts the curve line *d c* will be perpendicular to *a d*.

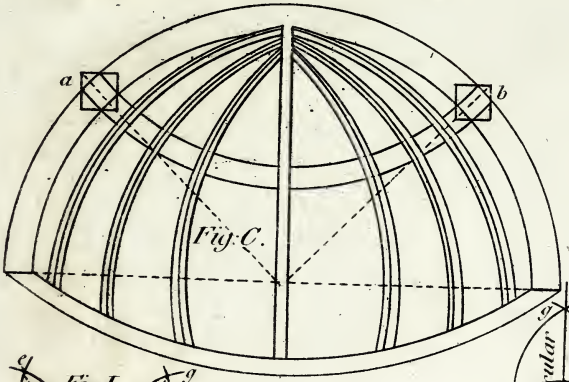
Fig. *K* is another method; from the point *a* draw the circular line *b c*, on which set the same radius twice, as *d e*, from *de* draw the lines *e f*, *d g*, their point of intersection will be the perpendicular to *a b*.

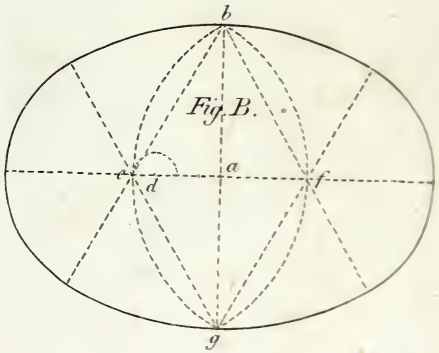
Fig. *L* segment; draw the line *a b*, from *d* draw the curve line *a c b*, which divide into four equal parts, and draw the dotted lines *d e*, *d c*, *d g*, set the compasses in *a*, open them to cross the line *d e*, and draw the curve the same in *b*; with the same radius draw the curve *e f g*.

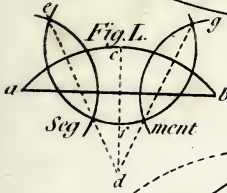


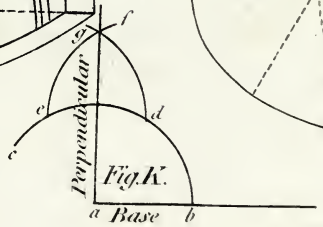



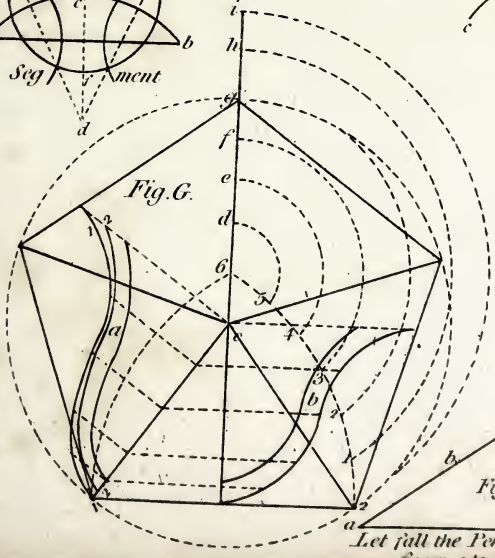



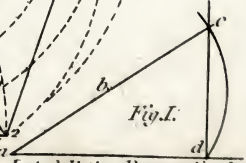



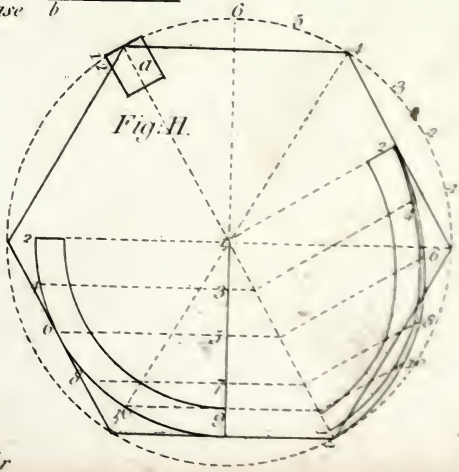




Let fall the Perpendicular from c to d.



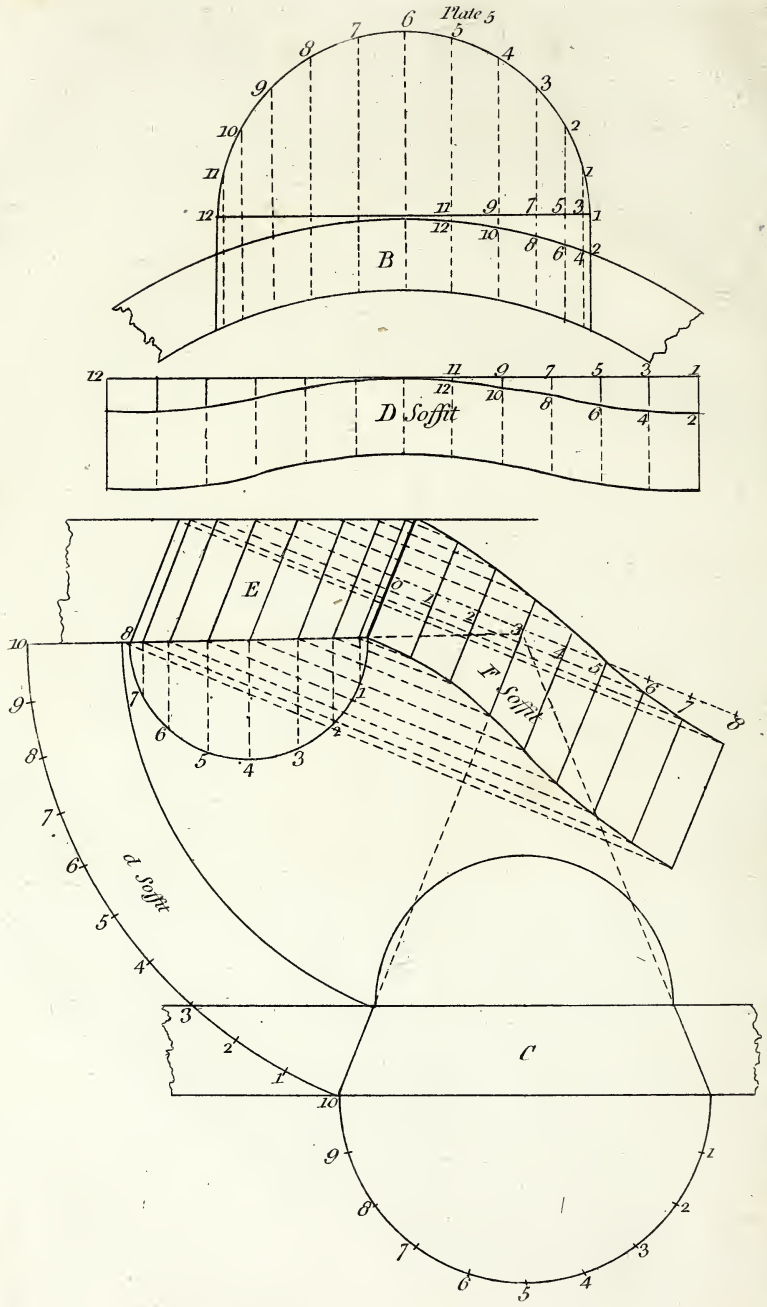


Plate 5
B
D Soffit
E
F Soffit
d Soffit
C

*To face Plate* V.

Fig. *B* the plan of a circular wall, wherein a circular door or window is to be fixed; to make a soffit to fit or stand on the plan as fig. *D*; draw the base line of the arch or soffit to touch the bow of the wall, divide the arch line into twelve parts, and drop them down to the plan across it, then stretch out the arch as 1.12, and draw the divisions at right angles from it; then take them from the base line to the wall as 1.2.3.4, &c. and transfer them on the parts of the line stretched out, that will give the edge of the soffit *D*.

Fig. *E* is a soffit in a straight wall on fluing jambs.

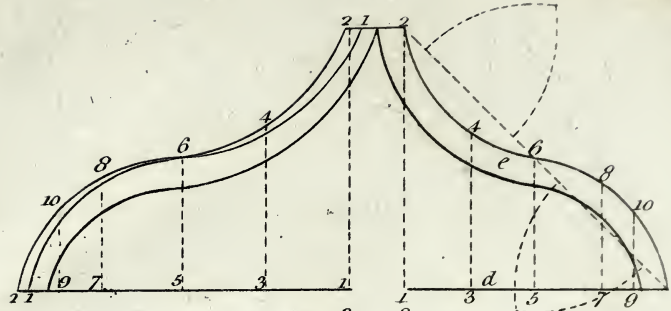
*F*. the soffit stretched out; stretch out the arch as 0 to 8, and draw lines from those divisions parallel with the jambs, then draw the lines from the divisions from each side of the plan, the angle of meeting will give the edge of the soffit.

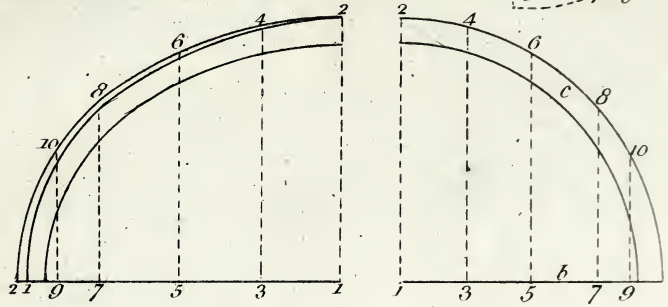
Fig. *C* is a circular soffit in a straight wall on fluing jambs.

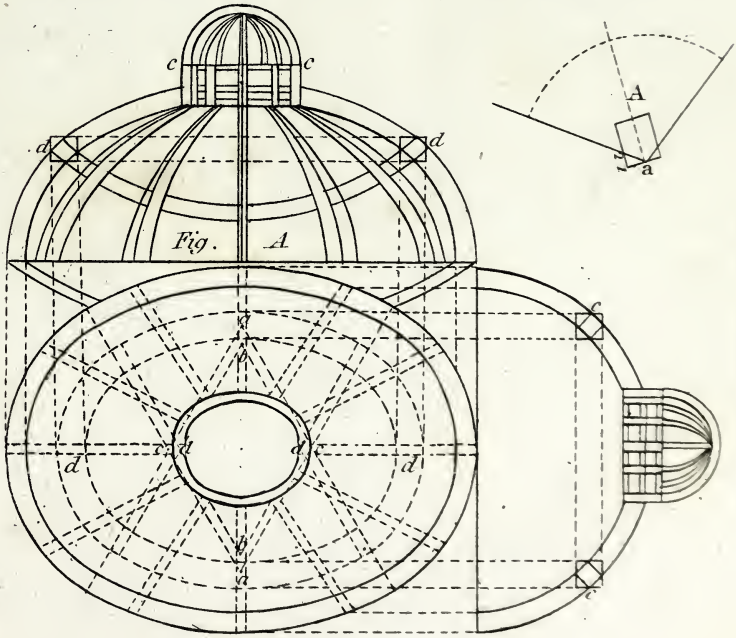
Fig. *d* the soffit stretched out, which is plain to inspection.

## *To face Plate* VI.

Fig. *A* is a dome on an elliptical plan; the centres for the mould for the horizontal ribs *d d*, are *a a*, *b b*, *c c*, *d d*, the place of that rib on the plan is found by dropping dot lines from the sections *d d*; *c c* on the top is designed for a sky-light. *b* and *d* are curve line roofs, supposed to stand on a hexagon, octagon, or any polygon figure; *c* and *e* are the given ribs which the hips are traced from. To find the backing of the hips; suppose the angle *A* to be one of the angles the hips are to stand on, lay down the plan of the hip just far enough for the outer edge to touch the angle, as at *a*, than the distance 1.2, from the side of the plan, is the wood to come off; take that distance, set it at the bottom of rib *b*, as 1.2, take in a nail at 1, shift the hip mould to it, and out to nothing at top, and marking by it, will show the wood to come off; on the ogee hip set on at bottom and top, as 1.2, shift the hip mould, and marking by it, there will be but little to come off in the middle part of the hip, as appears by the lines.


2 1 2
4
6
8
10
9 7 5 3 1
2 1
e
d
1 3 5 7 9


2
4
6
8
10
2 1 9 7 5 3 1
c
b
1 3 5 7 9


c c
d d
Fig. A
A
a
c
d
b

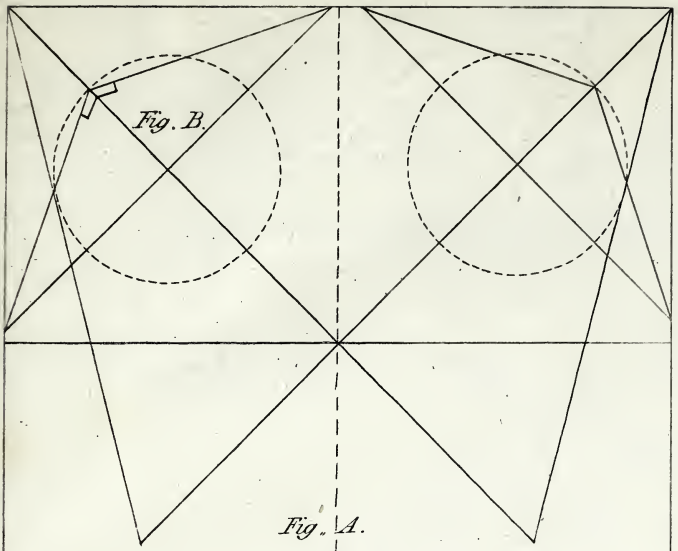



Fig A Shews how to find the length and Backing of any hip Square or Bevel, a, b the pitch or height of the Roof is ⅓ a, d, a; Square pitch the height equal to half the width a, c; a mean between b, and d, the length of the Hips are given to the pitch a, c, and Backing of ditto the length of the hip e, h, is equal to f, c, and the length of the hip i, k, is equal to c, g; to find the Backing of the hips, draw the lines l, p, m and n, p, o, at right Angles with a, i, and a, e, then set the Compasses at, p, and draw a Circle touching the hip line at r, then from the point s draw the lines s, m, s, l, and s, n, s, o which gives the Backing of the hip.

Fig B. Gives the miter for the Angle stiles of a pitch Sky-light and likewise the Bevel of the Lead Bar or pur line to the hip in Roofs, &c.

Fig. A.

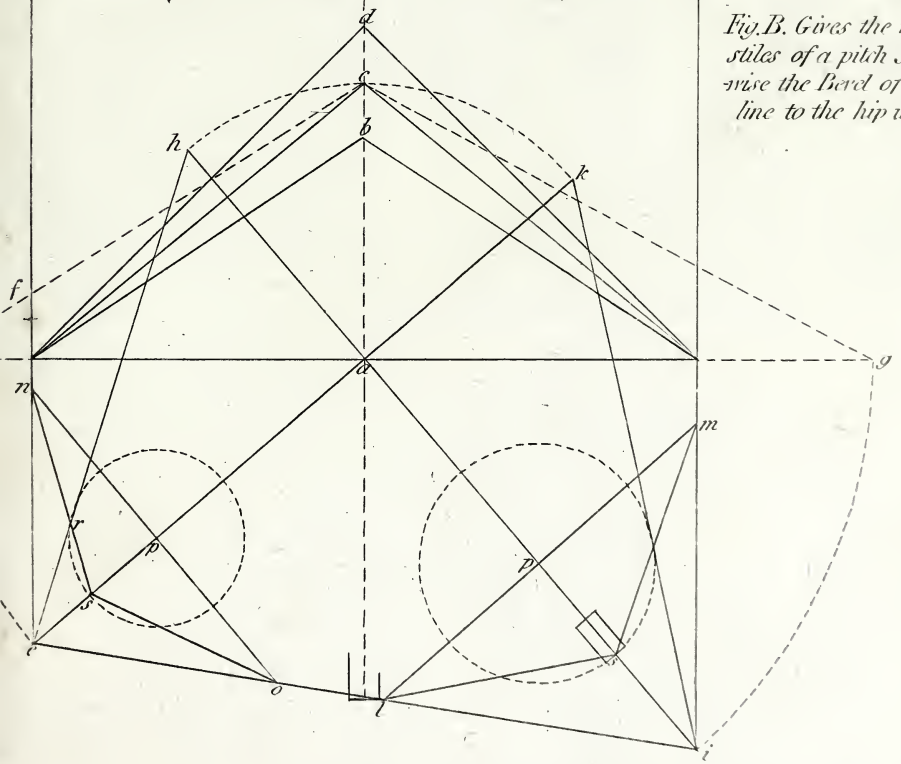
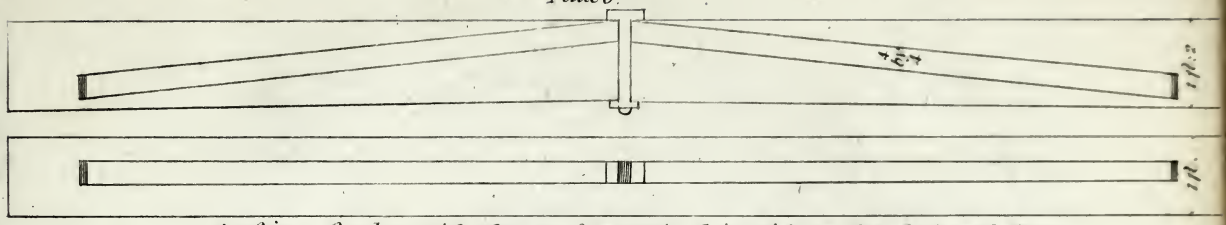
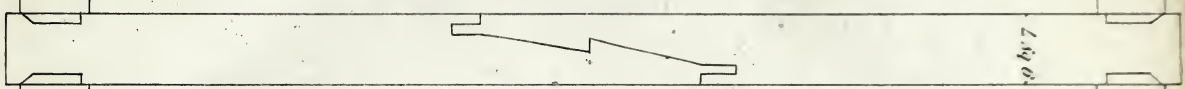


Plate 8.

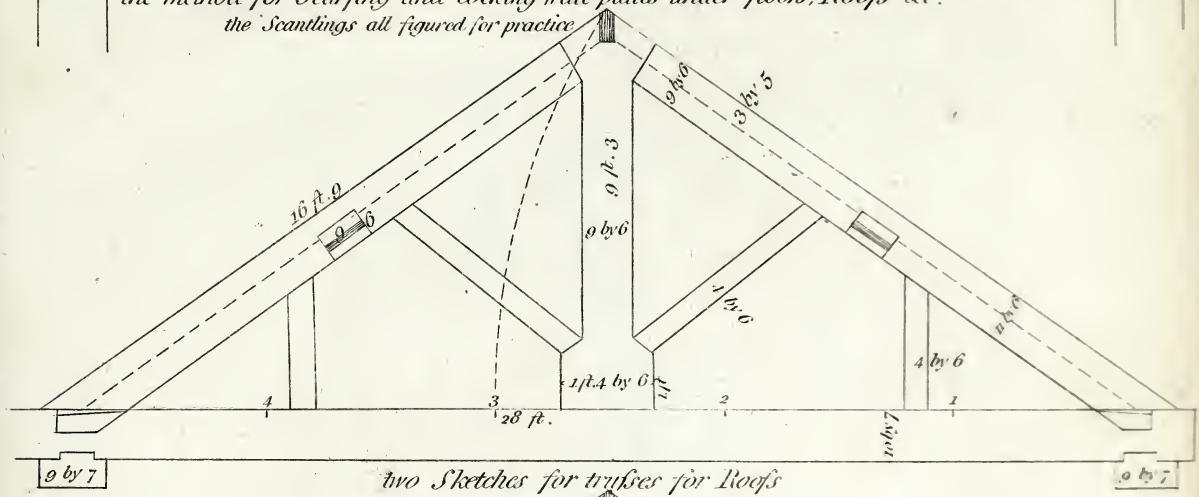



trussing Girders with the truss mortised in with an Iron bolt and Screw

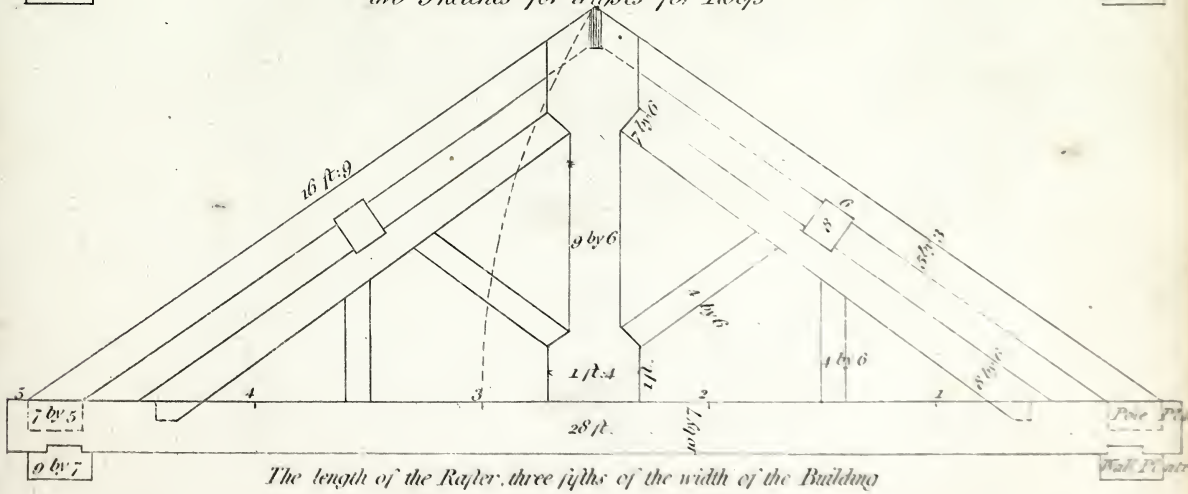



the method for Scarfing and Locking wall plates under floors, Roofs &c.

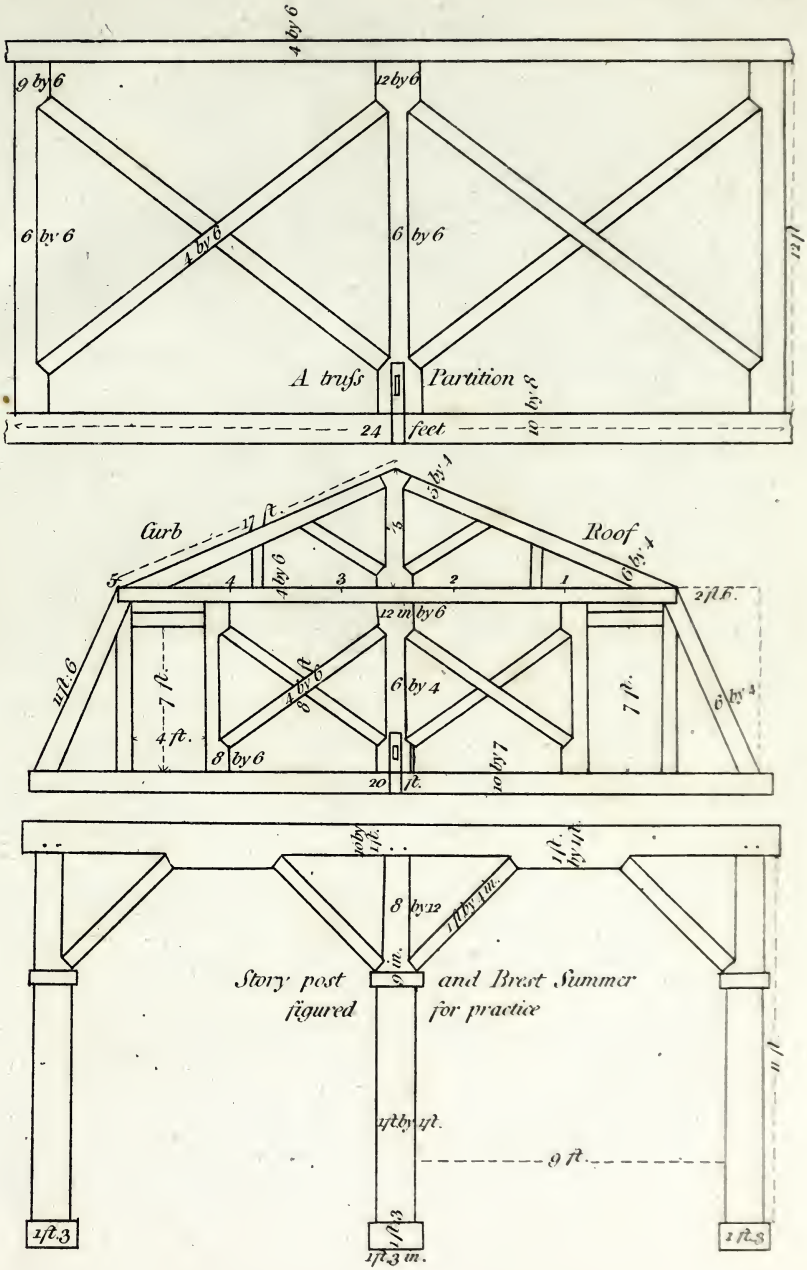
the Scantlings all figured for practice

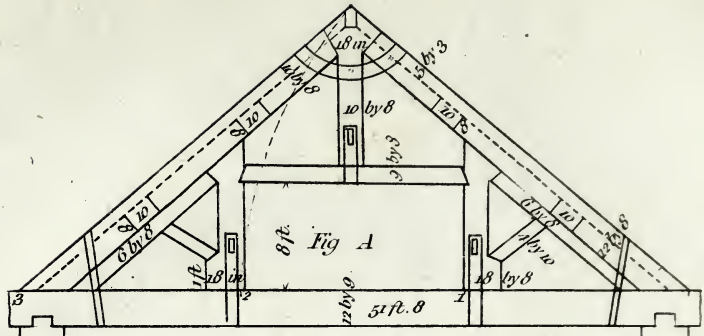



two Sketches for trusses for Roofs

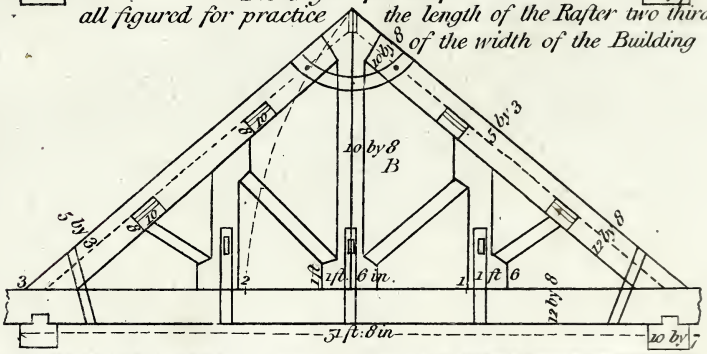


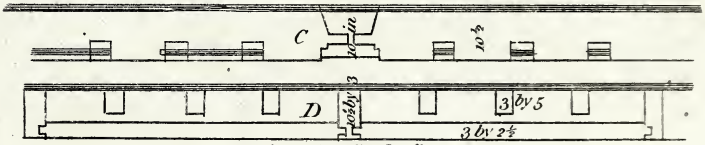

The length of the Rafter three fifths of the width of the Building


4 by 6
9 by 6
12 by 6
6 by 6
4 by 6
6 by 6
12 ft.
A truss
Partition
8 by 8
24 feet
20
3 by 4
Curb
17 ft.
Roof
6 by 4
5
4
4 by 6
3
2
1
2 ft. 6
12 in by 6
11 ft. 6
7 ft.
4 ft.
4 by 6
8 by 6
6 by 4
7 ft.
6 by 4
8 by 6
20 ft.
10 by 7
8 by 12
11 by 11 in.
11 by 11 in.
9 in.
Story post
figured
and Breast Summer
for practice
11 ft.
1 ft by 1 ft.
9 ft.
1 ft. 3
1 ft. 3
1 ft. 3
1 ft. 3 in.

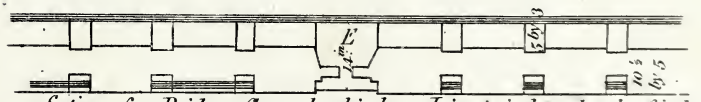



*Two trusses for Roofs all figured for practice the length of the Rafter two thirds of the width of the Building*

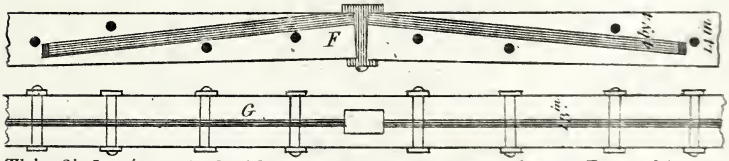


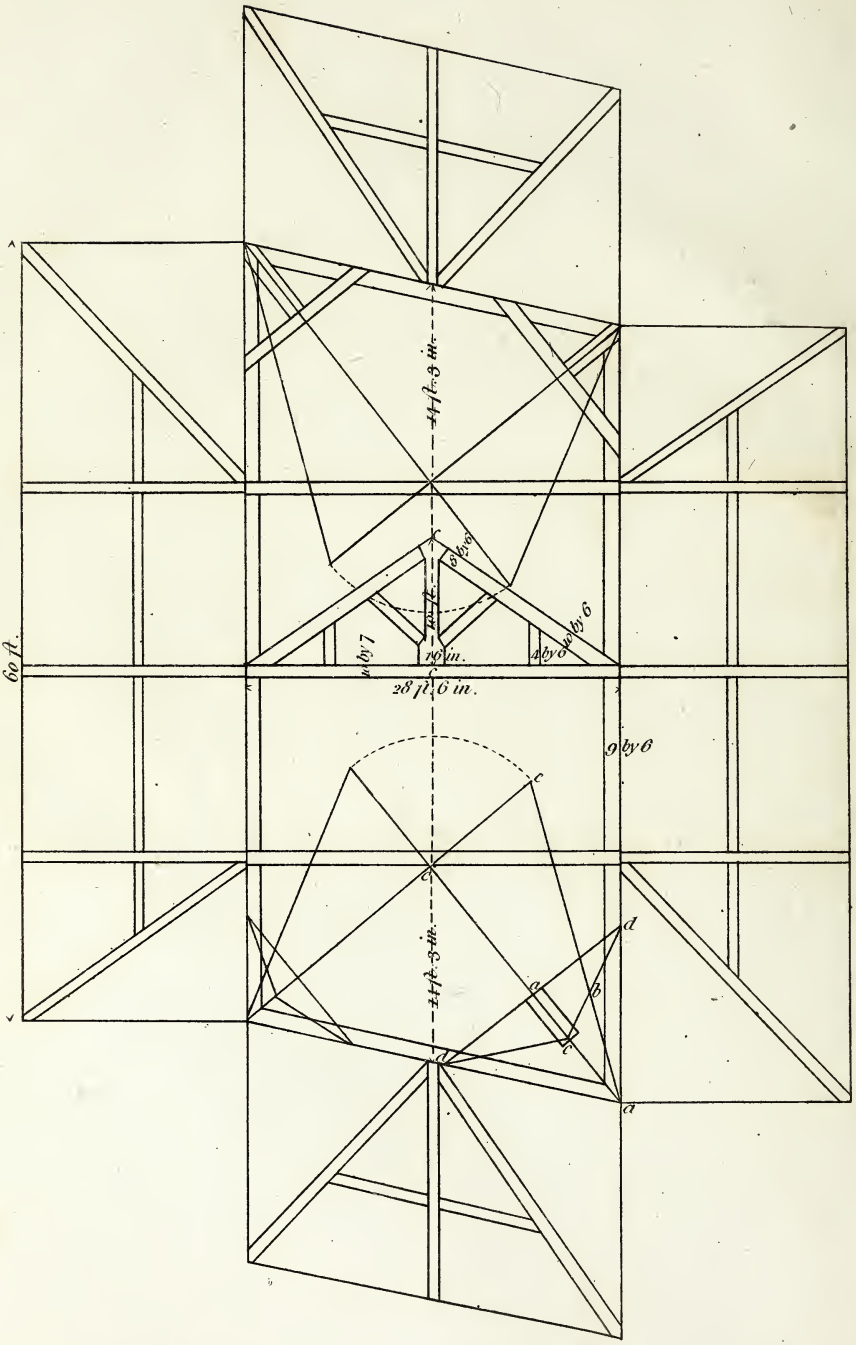

*Section of a Single floor*




*Section of a Bridge floor the binding Joist ½ inch under the Gird*




*This Girder is trussed with a Strong Iron bolt and Screws; Iron plates at end of the trusses.*


44 ft. 3 in.
6 by 6
10 ft.
7 by 7
10 in.
4 by 6
6 by 6
60 ft.
28 ft. 6 in.
9 by 6
c
d
a
b
44 ft. 3 in.
a
b
c
d
a

*To face Plate* XI.

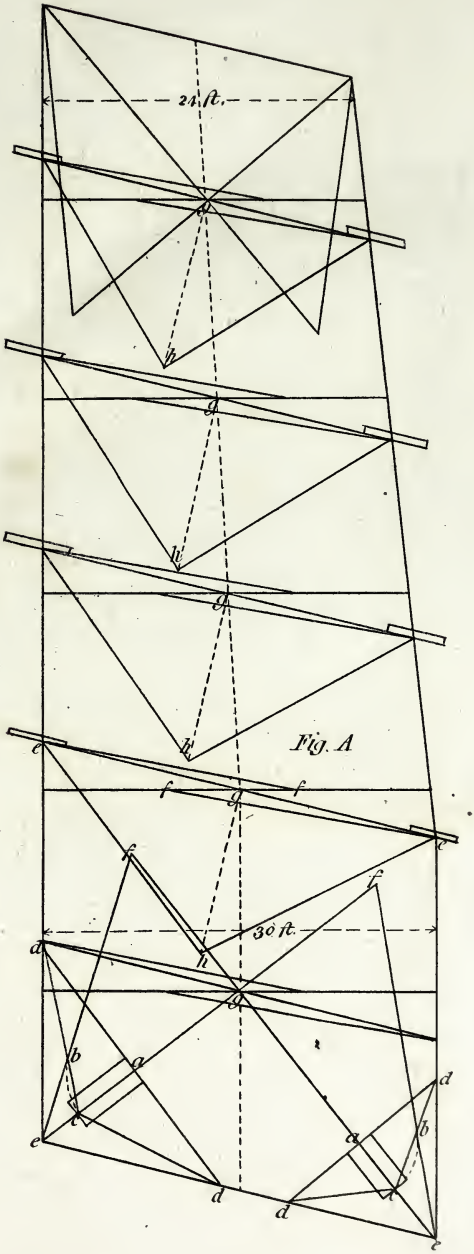
Is the plan of a bevel roof; the tie beams lie at right angles with the sides, which saves much labour in the performance of the work, and renders it much stronger; the sides and ends laid out in ledgement, the backing of the hips explained at the angle *a*; draw the line *d a d* at right angles with the base line of the hip *a a c*, set the compasses at *a*, and extend to touch the hip *a b*, and turn it round to *c*, on the base line of the hip; draw the lines *c d*, *c d*, which gives the backing of the hip; see the plan and the wood come off each side; this method will give the backing of any hips, square or bevel. To find the length of the hips, take the perpendicular of the principal rafters *c e*, and set it at right angles with the base of the hips at *c e*, draw the line *e a*, which is the length of the hip, and so on for all the rest, as is plain by the dot line top of the hips: there is a definition for finding the pitch of roofs in Plate VII. which will do for all.

## *To face Plate* XII.

Fig. *A* is a bevel roof; the sides are parallel on one part of the plan, the other bevels; to frame this roof in ledgement, the principal rafters must be framed to a level base, that is, the ends of the beams all of one height from the face of the plate; when you come to lay them the other way to frame in the purlines, there must be winding sticks held to the bases of the rafters, which winding sticks must be all out of winding, and as the width of the building diminishes, the backs of the rafters will lay in winding, as they will be when in their places; and mind that they are backed according to the bevel of the plan, for turning them up to tumble in the purlines, by this method the business may be well compleated.

Fig. *BC* trussing girders: mind, the wood at the end of the stitches must cut short of the end of the truss, that the force of the wedges may spring the girders. *D* and *E* scarfing plates, &c.

*Note*, The length of the hips and backings is found the same as in Plates VII. and XI.


24 ft.
30 ft.
Fig. A

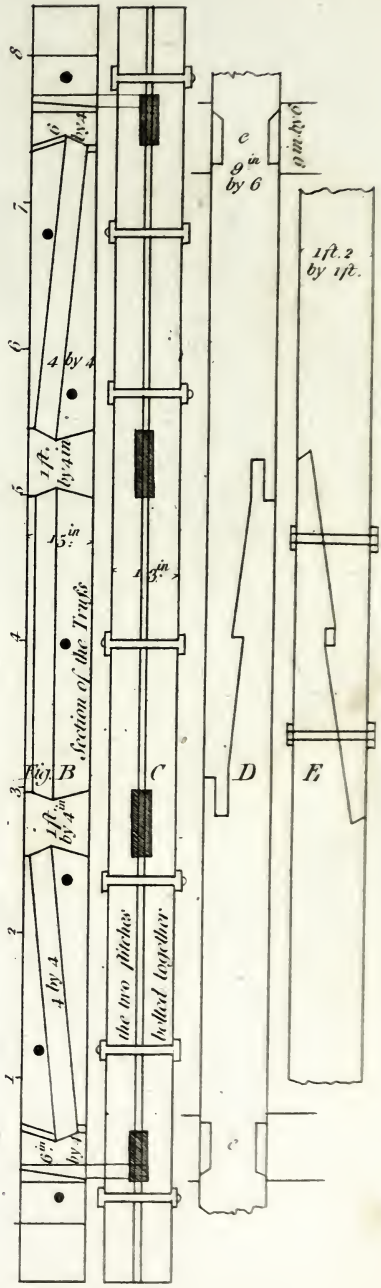
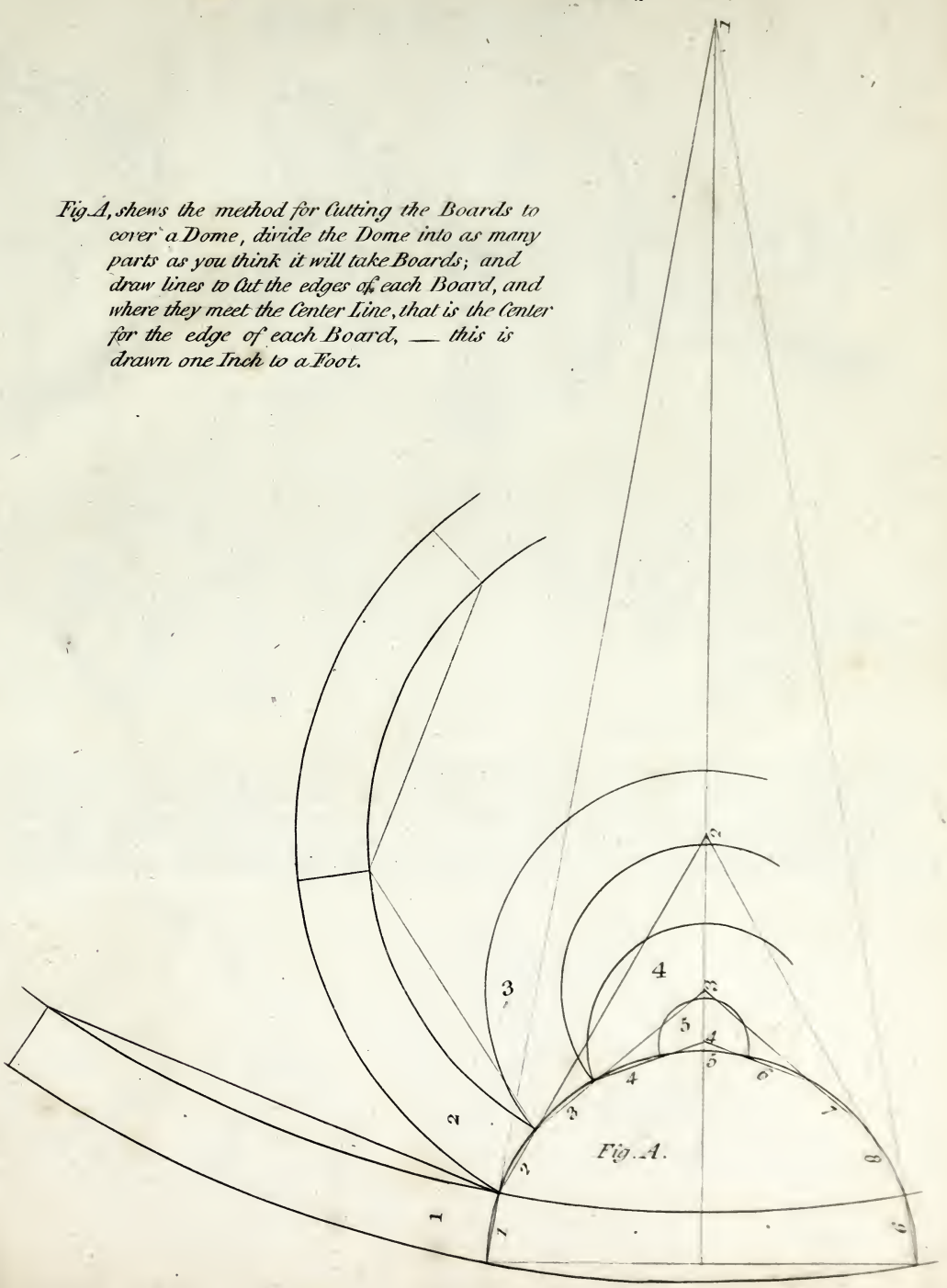
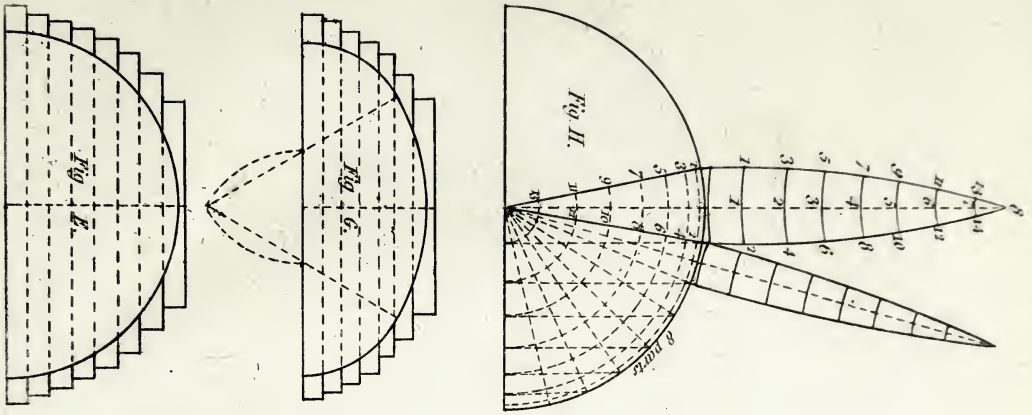
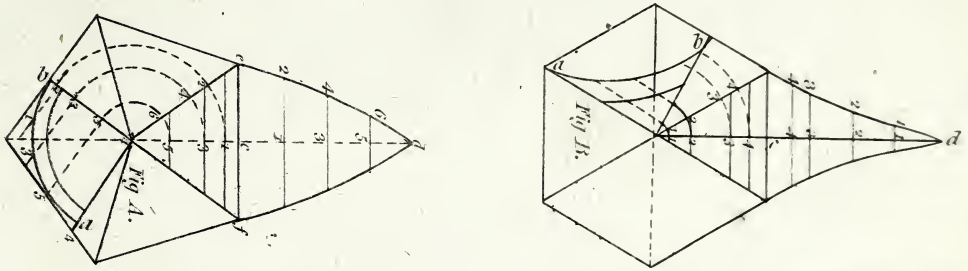

4 by 4
15 in.
Section of the Truss
the two pitches bolted together
9 in by 6
1 ft. 2 by 1 ft.
Fig. B
C
D
E

*Fig. A, shews the method for Cutting the Boards to cover a Dome, divide the Dome into as many parts as you think it will take Boards; and draw lines to Cut the edges of each Board, and where they meet the Center Line, that is the Center for the edge of each Board, — this is drawn one Inch to a Foot.*

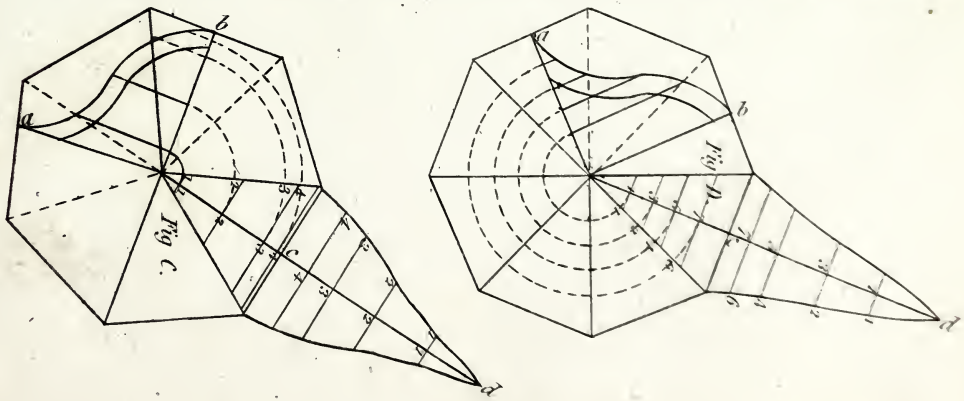


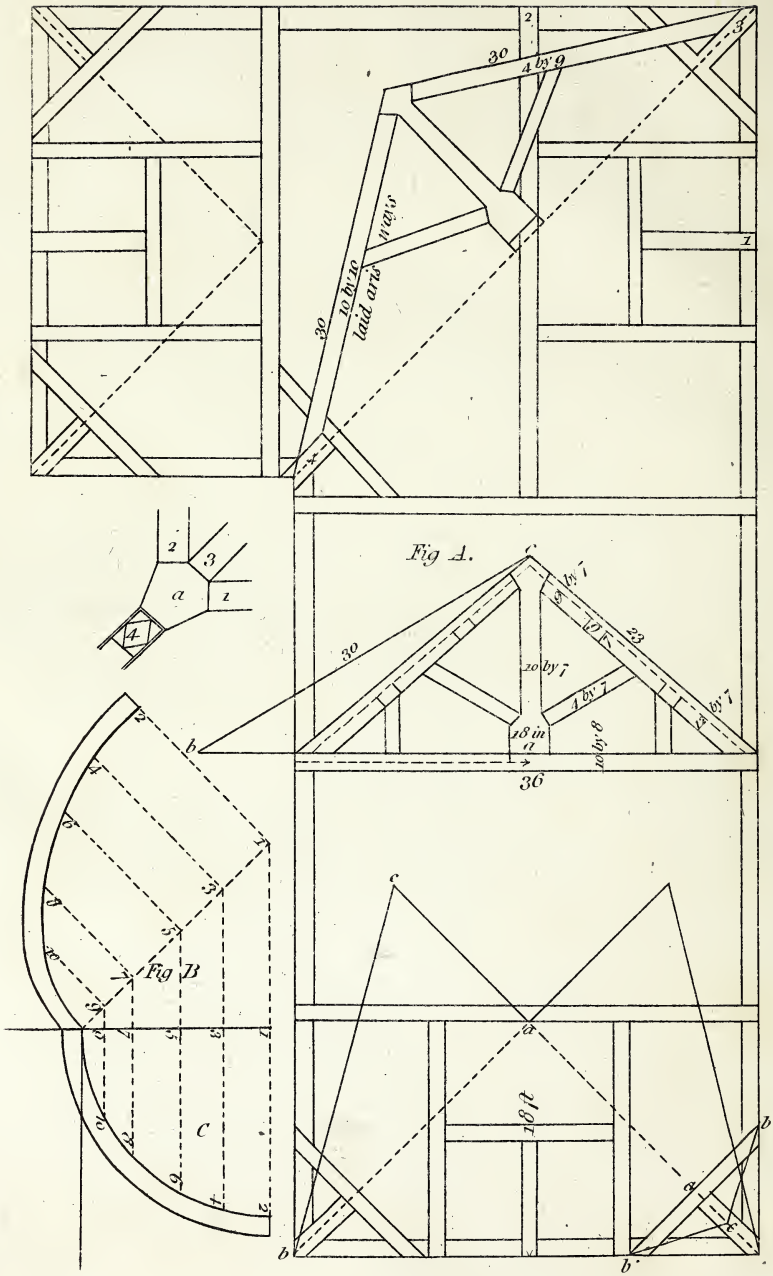
*Glewing up Niches and veneering as fig. E. G. H.*
*Fig A B. C. D. with Covering stretched out.*




*Divide the Curve Line of each Rib a, b, into 4 equal parts and drop them to the Base line of the Rib, then draw the dotted Lines round to the Base line of the Rib streached out, then draw one of those 4 parts & run them on the line c, d, at these draw lines at right angles with the line c, d, then take them from the plan as 1,1,2,2,3,3,4,4, Fig. B. & set them each way from the line c, d, as 1,1,2,2,3,3,4,4, which gives the edge of the covering. The Rib Fig. H. is divided into 8 parts.*




30
4 by 9
30
10 by 12
laid arris
2
3
1
a
4
Fig A.
c
3 by 7
23
20 by 7
4 by 7
18 in
10 by 8
b
36
Fig B
C
18 ft
a
b
c
d
e

*To face Plate* XV.

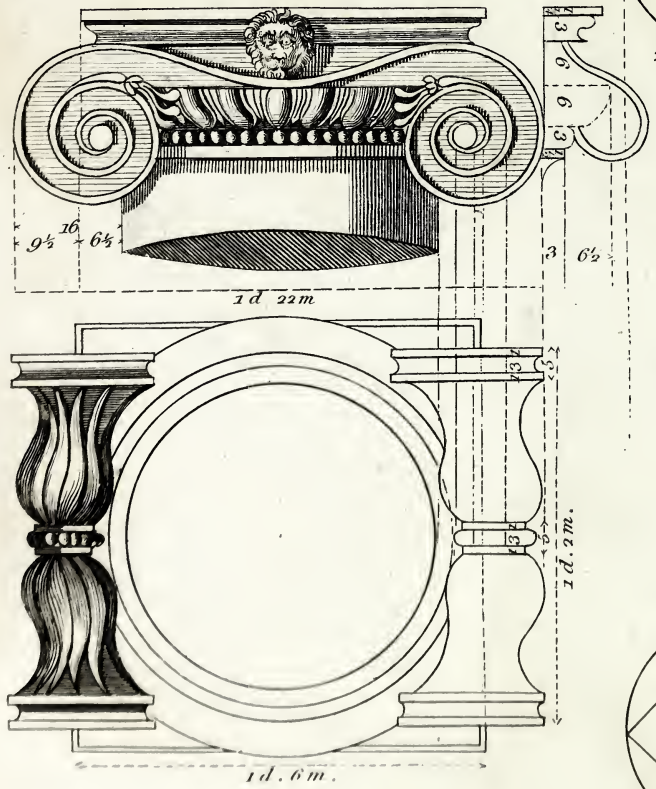
Fig. *A* is the plan of an L roof with hips and valley; the length of the hips and backing is the same as before in Plate XII. there is another way to find the length of hips, but that does not give the backing: if you take the base line of the hip *a b*, and set it on the base line of the principal rafters as *a b*, then draw the line *c b*, which is the length of the hip *c b*; on the side *a* is the plan of the king-post, showing how the hip, valley, and two principal rafters come to it; they are marked, on the ends of the beams they stand on, on the plan.

Fig. *B* is an angle bracket for a cove, which is traced from the given rib *C*, as the figures direct, 1.2.3.4.5.6.7.8.9.10.

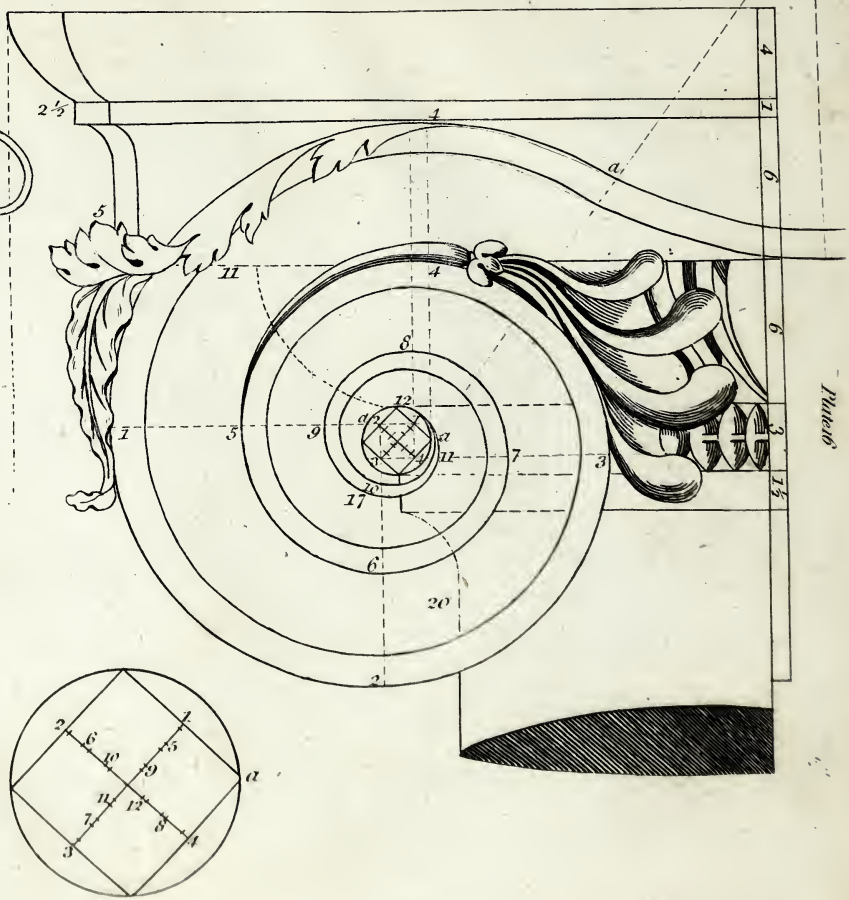
*To face Plate* XVI.

The Ionic volute, with all the measures figured for practice; to draw it, set the compasses at the angle *a* in the profile, and draw the arch from 4 to *a* on the back of the list, then draw the list from *a* down to the ovolo in the centre; to draw the other part of the volute, set one foot of the compasses at 1, on the side of the square of the eye, and extend to 4 under the fillet of the abacus, and turn round to 1, opposite 1 on the side of the square where your compass is first set, then set the compasses on the other side of the square *a* 2, and draw the arch 1.2; then set the compasses on the other side at 3, and draw the arch from 2 to 3, then set the compasses at 4, and draw the arch line 3.4, which is one revolution; then take the centre 5, and draw the arch 4.5, then the centre 6, and draw the arch line 5.6; next the centre 7, and draw the arch line 6.7; then the centre 8, and draw the arch 7.8; and so on for the rest. You see in the eye at large fig. *a* the small lines within the first centres, these are the centres for the inside of the list, to give its diminishing; the volute of the antique cap is drawn by the same method: the measures all figured for practice.

*Antique Ionic Cap*




*Modern Ionic Cap*



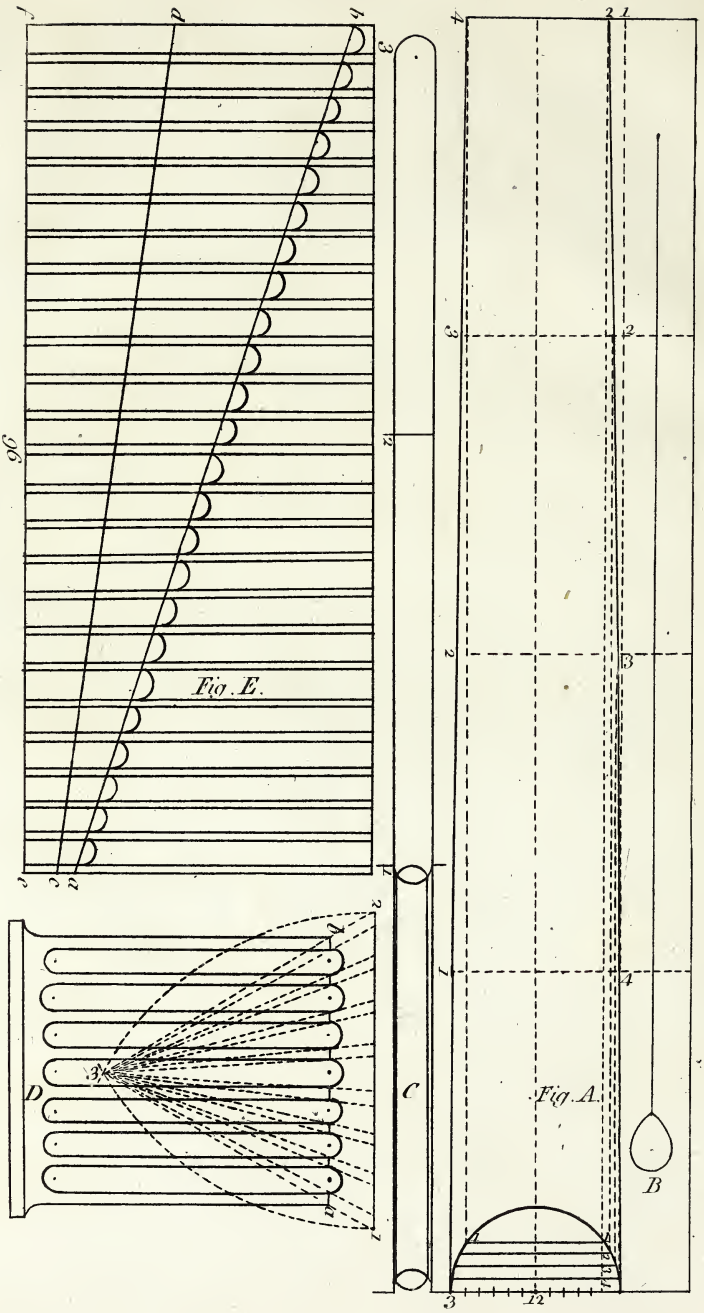


Fig. E.
Fig. A.
B
C
D

Fig. *A* shows the diminishing of the shaft of a column: divide the diameter into 12 parts, each part is 5 minutes, which is the diminishing of the shaft, as shown by the dot lines 1,2, and when they touch the arch at 1, divide that part of the arch 1.3 into 4 equal parts, and draw them cross to 1.2.3.4, on the opposite side, then divide the height of the shaft into 4 parts, and draw them cross the column to meet the dot 2.3.4, at which points of meeting tack in nails, and bend a slip to mark by it this gives the profile or swelling of the column:—To set out the flutes and fillets on the column, take the girt at bottom, and extend it from *a* to *b* on fig. *E*, likewise the girt at the neck, and extend it from *c* to *d*, and mark the flutes and fillets, as from *a* to *b*, on a slip of strong paper or vellum, fix it tight round the column, and mark them on the column; run 96 parts on a right line, as *ef*, which must be less than the circumference of the column; to set out the flutes and fillets on the pilaster, run 29 parts on the line 1.2, fig. *D*. greater than the diameter; make the triangle 1.2.3, by setting the compasses 1,2, and turning them to 3, draw the lines to 3, than the pilaster *a b* is divided from the flutes and fillets; give 3 to a flute and 1 to a fillet; *C* shews the manner of fluting and cabling: the cable is one-third of the shaft of the column in height.

*B* is a plumb line, which also shows the diminishing of the shaft from the outside.

*To face Plate* XVIII.

Of gluing up columns: they must be glued in 8 or 12 parts; if glued other ways, the joints will fall in the flutes, which must not be.

Fig. *C* is the plan of a column in 8 parts, with the flutes and fillets laid out to show how they are done; *A* is a joint hook for jointing the staves; *B* the backing mould to prove the joints; *D* plan of the shaft at top: the best way is to diminish the staves before glued together, the column diminishes 10 minutes, that is, 5 of a side as is shown by the scale.

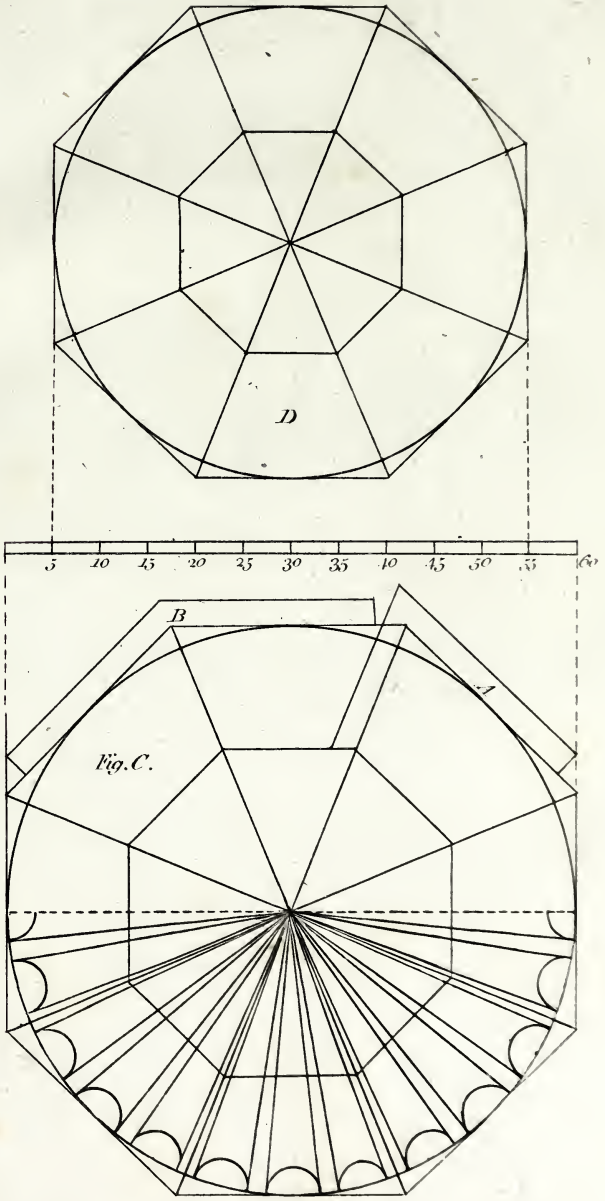
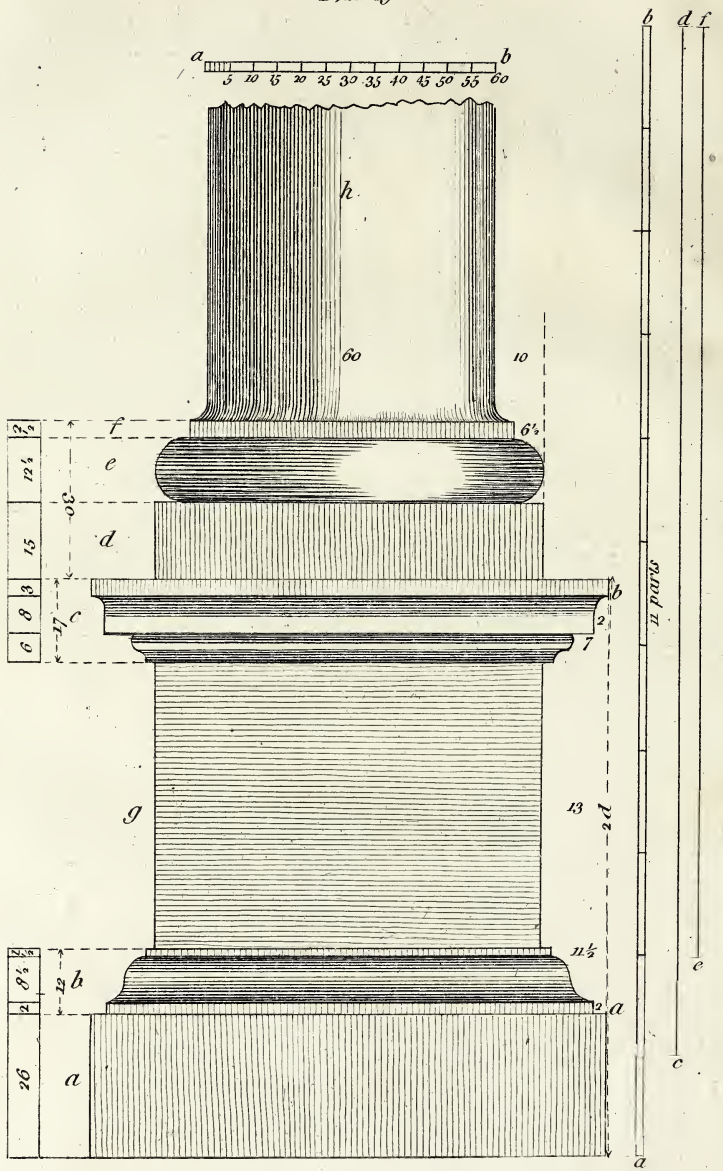



Fig. C.

Plate 19

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## *To face Plate* XIX.

To proportion the Tuscan order to any given height on a pedestal; suppose the rod *a b* to be the height given, divide it into 11 parts, 1 is the diameter of the column; give 2 to the pedestal, and 2 to the entablature; the remaining 7 are the column, including the base and capital; divide the scale *a b* in 12 parts, and 1 of them into 5; then the scale *a b* is divided into 60 parts, and those parts are to be disposed to the mouldings as figured in height and projection; the projections are set from a plumb line, as *a b* at the pedestal; the column diminishes one fourth part of the diameter at bottom, which gives 45 minutes to the column at top; on a sub-plinth, divide *c d* into 10 parts, 1 is the diameter of the column; on its own plinth divide *e f* into 9 parts, 1 is the diameter of the column, to be divided as the scale *a b*; *a*, plinth of pedestal; *b*, base of ditto; *g*, die of ditto; *c*, cap of pedestal; *d*, plinth of column; *e*, torus; *f*, cincture; *h*, shaft of column.

## *To face Plate* XX.

The Tuscan cap and entablature, with all the measures figured from the scale *a b*, the projections set from a plumb line dropped from the extreme of the mouldings, as the line *a b*; *a* plan of the capital; *b*, neck of the column; *c*, astragal; *d*, neck of cap; *e*, fillet; *f*, ovolo; *g h*, abacus; *i*, first face of an architrave; *k*, second face of ditto; *l*, tenia; *m*, frieze; *n*, cavetto; *o*, fillet; *p*, ovolo; *q*, corona, or sima recta; *s*, list, or fillet; the height of the entablature two diameters of the column at bottom; the base of the column half a diameter; the cap half a diameter; the architrave 35 minutes; frize $42\frac{1}{2}$ minutes; the cornice $42\frac{1}{2}$ minutes.

Plate 20

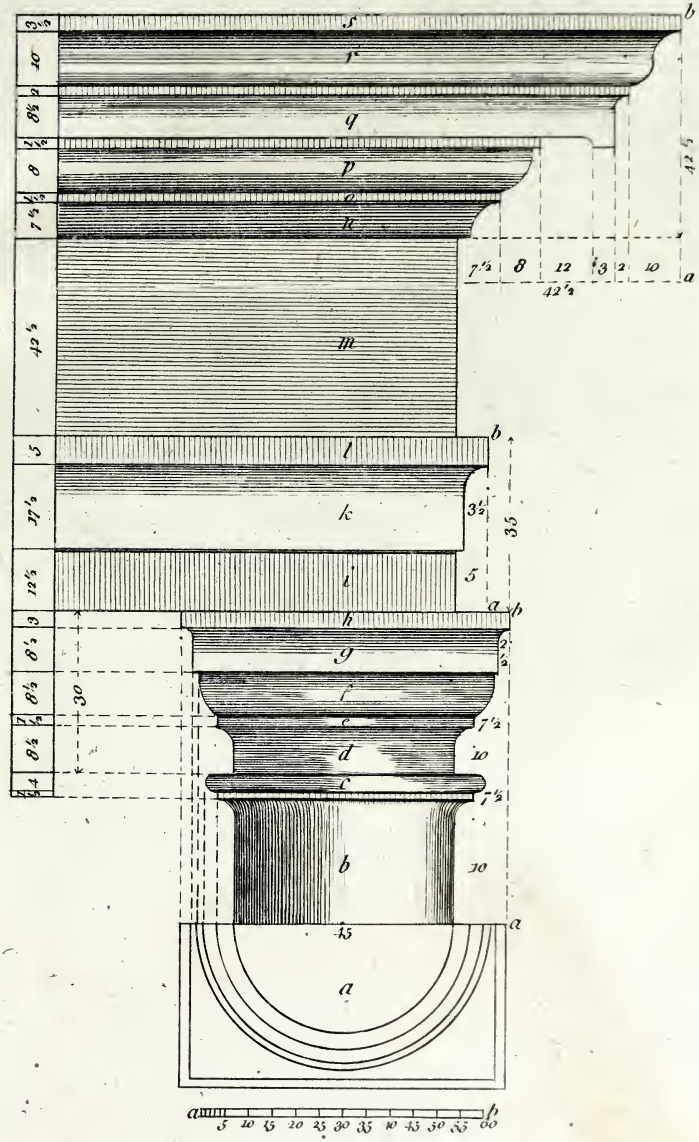


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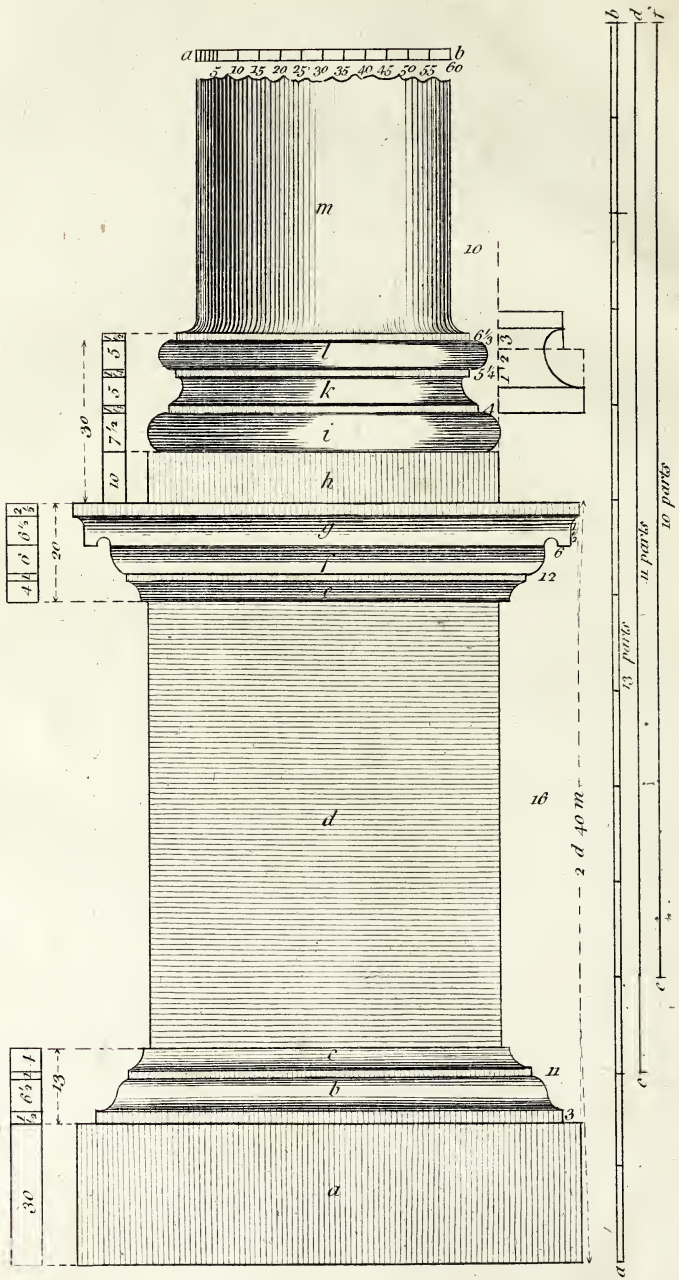
*Plate 21*


a
b
5 10 15 20 25 30 35 40 45 50 55 60
m
10
l
k
i
h
g
f
e
d
c
b
a
16
12
11
3
30
20
13
2 d 40 m
grand 13 parties
grand 11 parties
10 parties

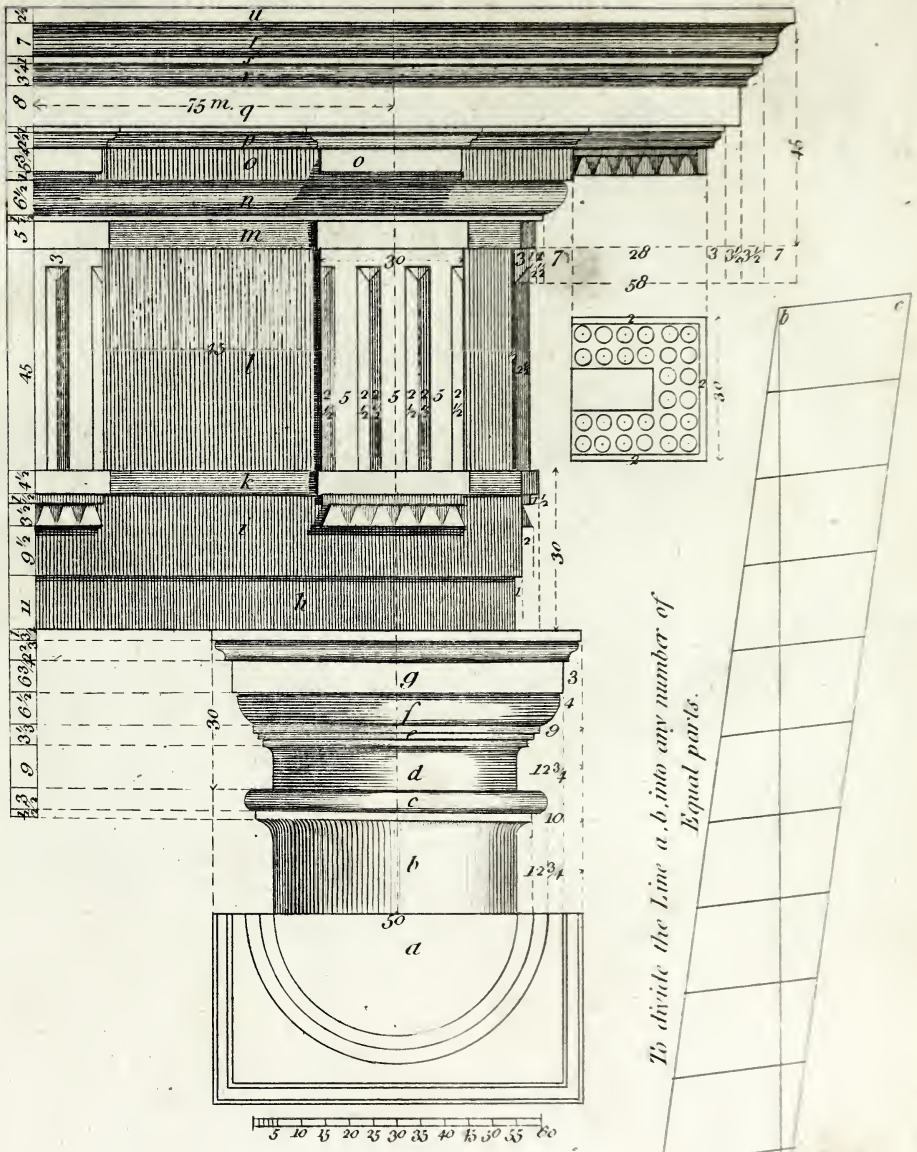
*To face Plate* XXI.

To proportion the Doric order on a pedestal to any given height; divide the rod *a b* into 13 equal parts; 1 is the diameter of the column, to be divided into 12 equal parts, and 1 of those parts into 5, as the scale *a b*, and those parts disposed to the mouldings in height and projection, as figured. To proportion on a sub-plinth, divide *c d* into 11 parts; 1 is the diameter of the column, to be divided as the scale *a b*: to proportion on its own or proper plinth, divide *e f* into 10 parts, 1 is the diameter of the column; the height of the pedestal 2 diameters, 40 minutes; the height of the column 8 diameters, 20 minutes, including base and cap; the entablature 2 diameters; *a*, plinth of the pedestal; *b*, sima recta; *c*, cavetto; *d*, die of the pedestal; *e*, cavetto; *f*, ovolo; *g*, corona; *h*, plinth of the column; *i*, torus; *k*, scotia; *l*, upper torus; *m*, shaft of the column.

The Doric entablature and cap of the column, with all the mouldings figured for practice, in height and projection; the shaft of the column diminishes one sixth part, that is, 60 minutes at bottom, and 50 minutes at top, as figured; the height of the column's base 30 minutes; the capital 30 minutes, architrave 30 minutes, frize 45 minutes, the cornice 45 minutes in height, the width of the triglyphs in the frize 30 minutes; the distances from centre to centre 75 minutes, the interval between the triglyphs 45 minutes; the width of the tryglyph 30 minutes, is to be divided into 12 equal parts, each part is $2\frac{1}{2}$ minutes, that is, $2\frac{1}{2}$ minutes to each semi-gutte, and 5 minutes to each fillet, as figured; the profile or thickness of the triglyph is 3 minutes, that is, $2\frac{1}{2}$ minutes the depth of gutte, and half a minute the bottom, as figured: *a*, plan of the capital; *b*, neck of the column; *c*, astragal; *d*, neck of the capital; *e*, amulets; *f*, ovolo; *g*, abacus; *h*, first face of the architrave; *i*, second face of ditto; *k*, tenia; *l*, frize; *m*, cap of tryglyph; *n*, ovolo; *o*, block fillet; *p*, cap of modillion; *q*, corona; *r*, sima reversa; *s*, fillet; *t*, sima recta; *u*, list or fillet; *o*, modillion.

In intercolumniations for porticoes, colonades, arcades, &c. due regard must be had to the number of triglyphs and modillions between the central lines of columns in the Doric order. Two diameters 30 minutes between the central lines, take 2 triglyphs; 3 diameters 45 minutes take 3 triglyphs; 5 diameters take 4 tryglyphs; 6 diameters 15 minutes take 5 triglyphs; 7 diameters 30 minutes take 6 triglyphs, &c.

To divide the line *a b* into any number of equal parts, make *a d* and *b c* equal distance from *a b*, set the compasses at any distance, and run them on the line *a c* and *b d*, then draw lines from the lines *a c* to the line *b d*, and that will divide the line *a b* equal.

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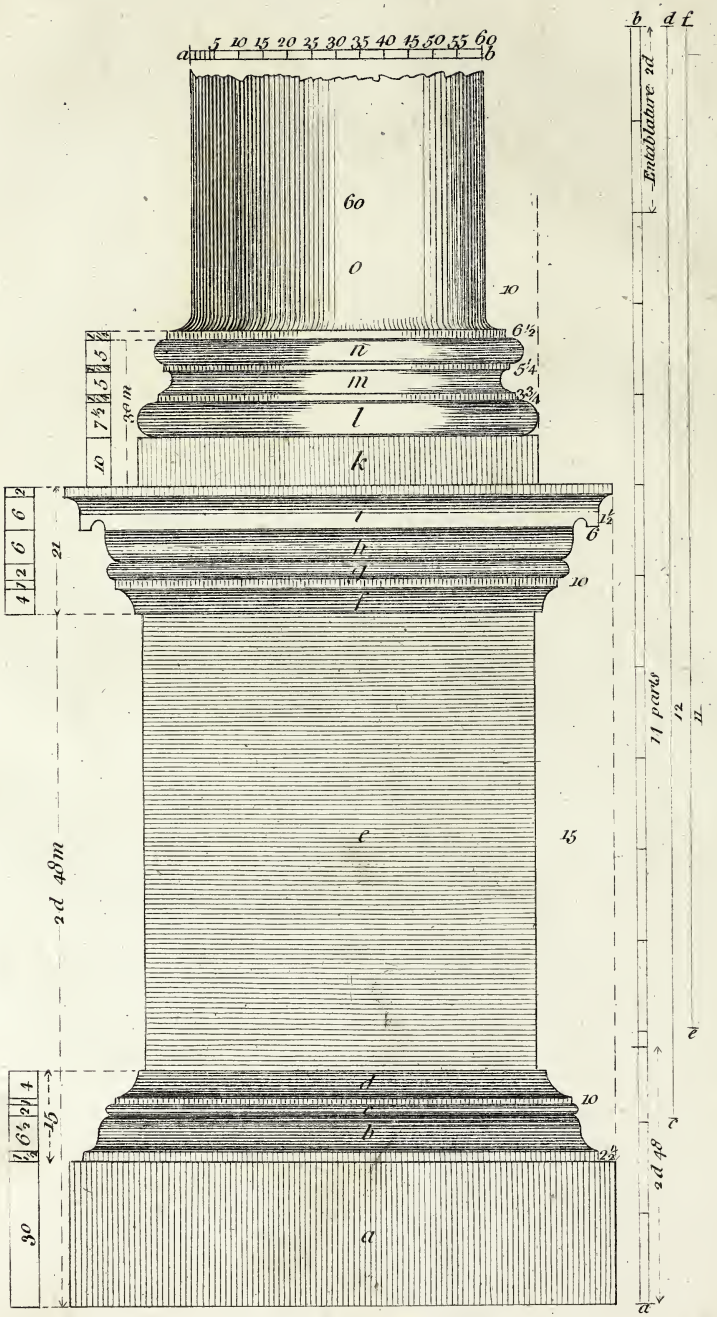
# Plate 23




Publish'd by W. Pain July 15 1769

## *To face Plate* XXIII.

To proportion the Ionic order on a pedestal to any given height: divide the rod *a b* into 14 equal parts; one is the diameter of the column or bottom, to be divided into 12 parts, and one of those parts into 5 parts, as the scale *a b* at top, and those parts to be disposed to the mouldings in height and projection, as figured; the height of the pedestal is 2 diameters 48 minutes; the height of the column, including base and capital, 9 diameters 12 minutes; the height of the entablature 2 diameters: on a sub-plinth; divide *c d* into 12 parts, 1 is the diameter of the column; give 1 to sub-plinth and 2 to the entablature; on its own plinth, divide *e f* into 11 parts, 1 is the diameter of the column, to be divided into 12 parts, and 1 of these into 5 as before; *a*, plinth of the pedestal; *b* sima recta; *c*, bead; *d*, cavetto; *e*, die of the pedestal; *f*, cavetto; *g*, bead; *h*, ovolo; *i*, corona; *k*, plinth of the column; *l*, torus; *m*, scotia; *n*, upper torus; *o*, shaft of the column.

The Ionic capital and entablature with all the mouldings, figured for practice, in height and projection; the height of the capital 30 minutes, the base of the column 30 minutes, the column, including base and cap, 9 diameters, 12 minutes; the height of architrave 35 minutes, frize 40 minutes, cornice 45 minutes; architrave, frize, and cornice together 2 diameters; *a*, the modillion at large; *b*, cap of modillion; *c*, plan of the capital; *d*, neck of column; *e*, bead; *f*, ovolo; *g h* abacus; *i*, first face of architrave; *k*, second face of ditto; *l*, sima reversa; *m*, tenia; *n*, frize; *o*, cavetto; *p*, ovolo; *q*, block sills; *r*. corona; *s*. sima reversa; *t*, sima recta.

To draw the soffit of the modillion, divide the profile into six parts; give 1 to the nose and 1 to the heel; set the compasses at 4, and take one part and half, turn down to *a*, again set the compasses at 1, and turn up two parts and half to *b*, and draw the dot line *a b*, the centres 4 *a* and *b* will describe the soffit of the modillions; from centre to centre of the modillion 31 minutes; the width in front 10 minutes, the interval 21 minutes.

Intercolumniations in the Ionic order from centre to centre of modillions is 31 minutes, the interval or space between 21 minutes; 3 diameters 37 minutes from centre to centre of the columns, take 7 modillions; 4 diameters 8 minutes, take 8 modillions; 5 diameters 10 minutes, take 10 modillions; 6 diameters 12 minutes, take 12 modillions; 6 diameters 43 minutes, take 13 modillions; at 31 minutes from centre to centre of modillion, if dentels are used instead of modillions, the space from centre to centre of dentels is $7\frac{1}{2}$ minutes, and the interval between 2 minutes, and half the dentel, in front 5 minutes.

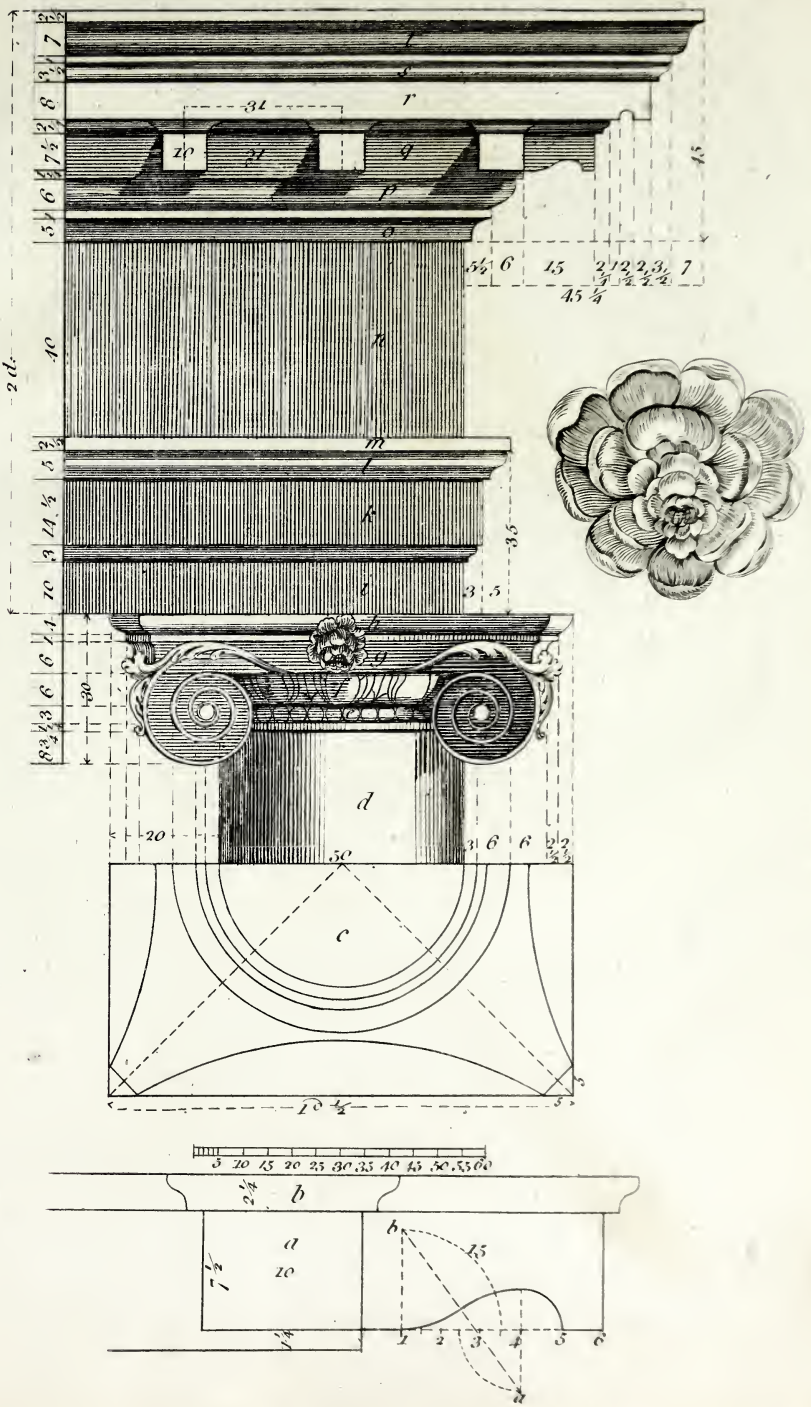
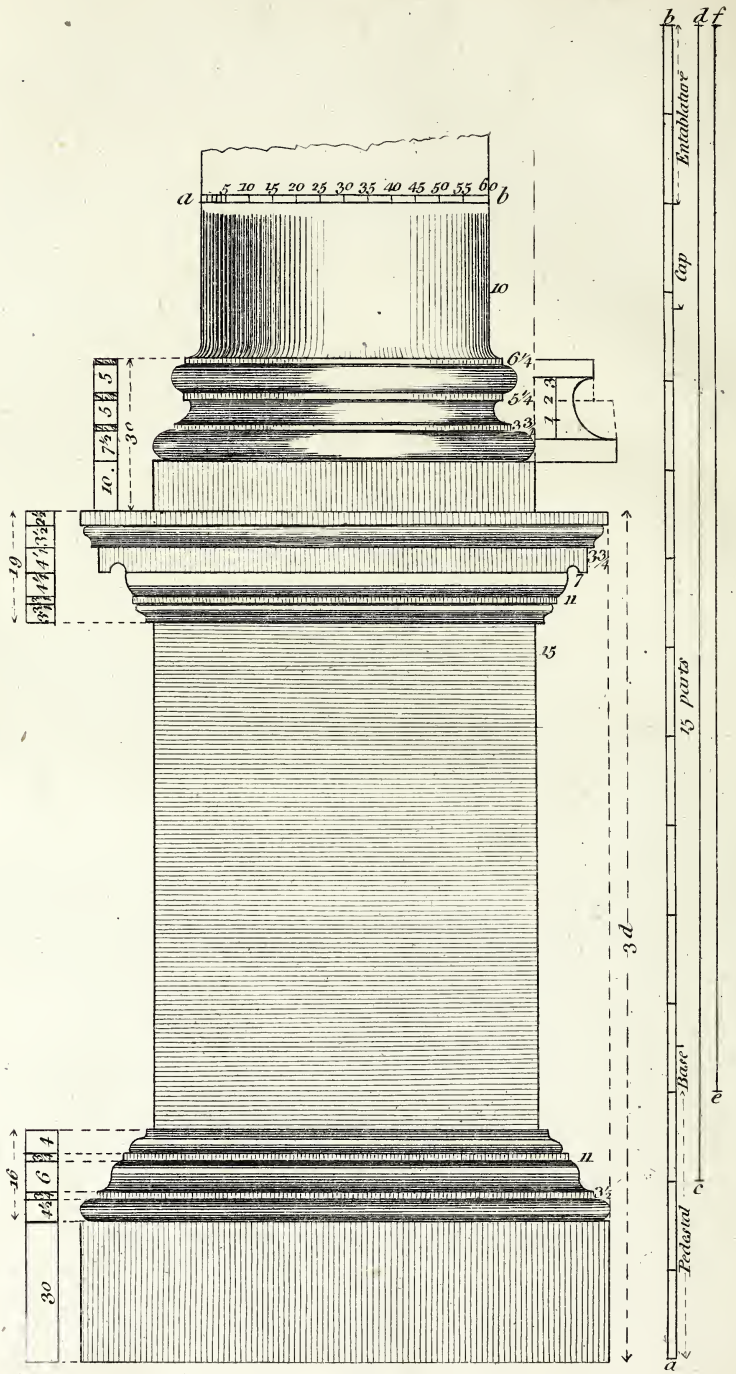

2 d.
f
g
r
q
p
o
n
m
l
k
i
h
d
c
b
a
31
30
20
50
45 1/4
5 10 15 20 25 30 35 40 45 50 55 60

Plate 25




Publish'd by W. Pain July 25, 1789.

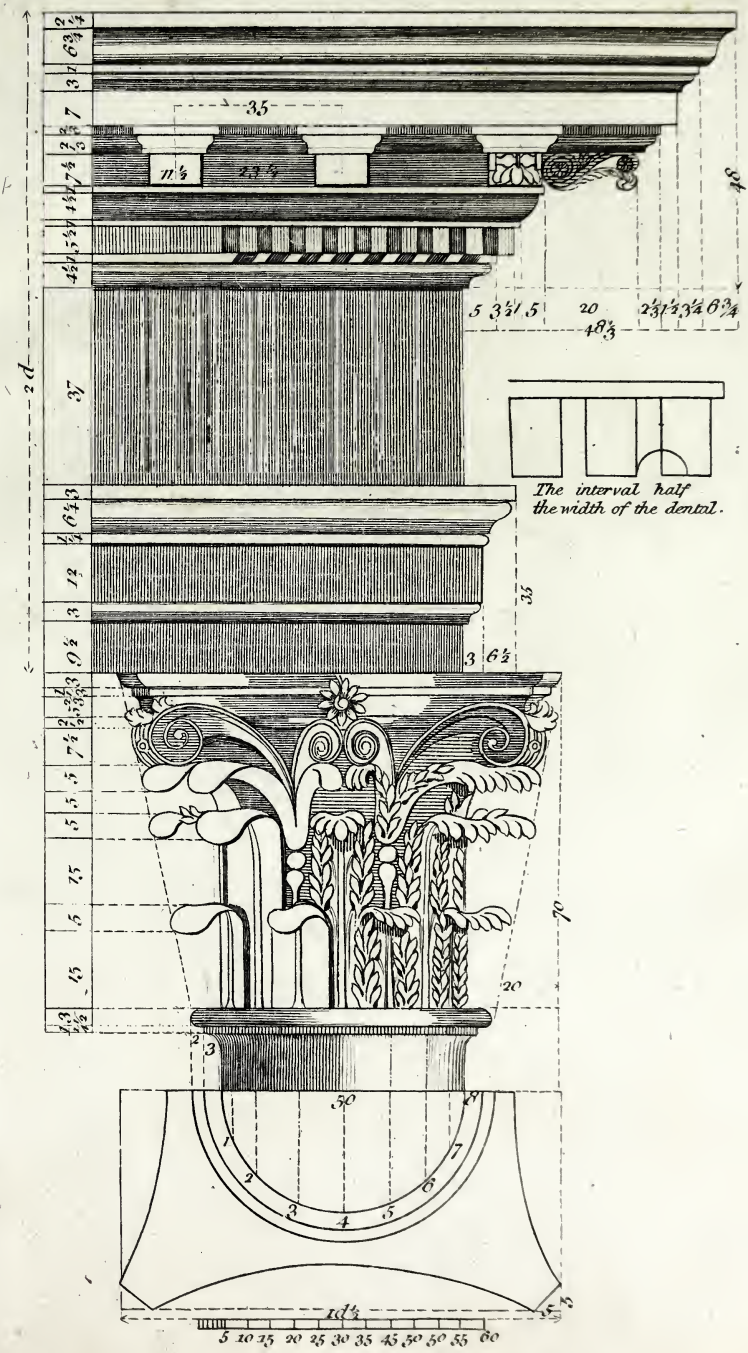
*To face Plate* XXV.

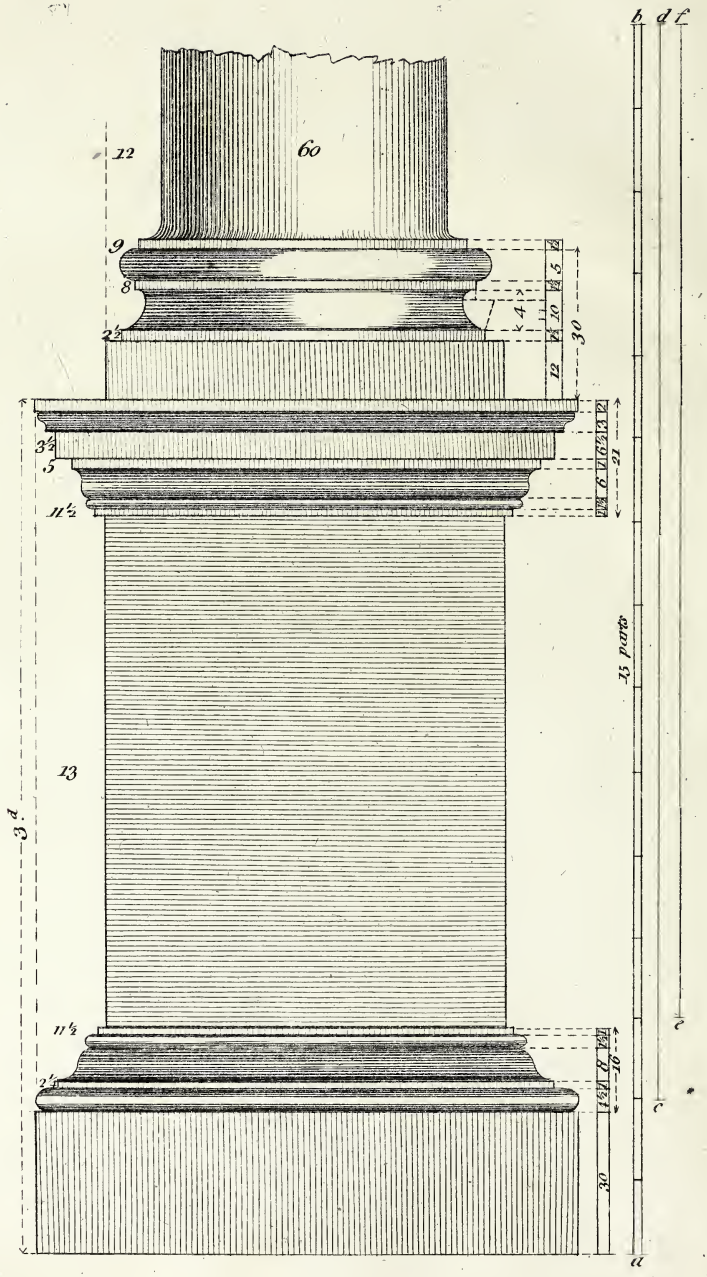
To proportion the Corinthian order on a pedestal: suppose the rod *a b* to be a given height, divide it into 15 parts, give 3 to the pedestal, 2 to the entablature, and 10 to the shaft, including the base and capital, each part is equal to one diameter at the base; to proportion on a sub-plinth, divide *c d* into 13 parts each part is equal to one diameter of the column at bottom, which is to be divided into 12 parts, and one of these into 5 parts as the scale *a b;* to proportion on its own plinth, divide *e f* into 12 parts, one is the diameter of the column to be divided into 12, and one again into 5, as before, and those parts disposed to the mouldings in height and projection, as figured on the plate.

*To face Plate* XXVI.

The Corinthian entablature and capital, with the plan of cap, and measures figured for practice: to draw the capital, divide the shaft of the column into 8 parts as in the plan, and draw them up to the cap, this gives the centre or stem of each leaf; the Corinthian modillion is $11\frac{1}{2}$ minutes in front, and 35 minutes from centre to centre of modillion, the interval between $23\frac{1}{2}$; the height of the capital 70 minutes, the projection 20 minutes, the height of architrave 35 minutes, the frize 37 minutes, the cornice 48; the column diminishes one sixth part of the diameter.

Intercolumniations in the Corinthian order, 3 diameters 30 minutes, from centre to centre of the columns, take 6 modillions; 4 diameters 40 minutes, take 8 modillions; 6 diameters 25 minutes, take 11 modillions; 7 diameters, take 12 modillions.


2d
35
48
5 3½ 1½ 5 20 2½ 1½ 2¾ 6¾
48⅔
The interval half the width of the dental.
3 6½
35
70
20
50
1 2 3 4 5 6 7
101½
5 10 15 20 25 30 35 45 50 50 55 60




Published by W Pain July 1 1789

*To face Plate* XXVII.

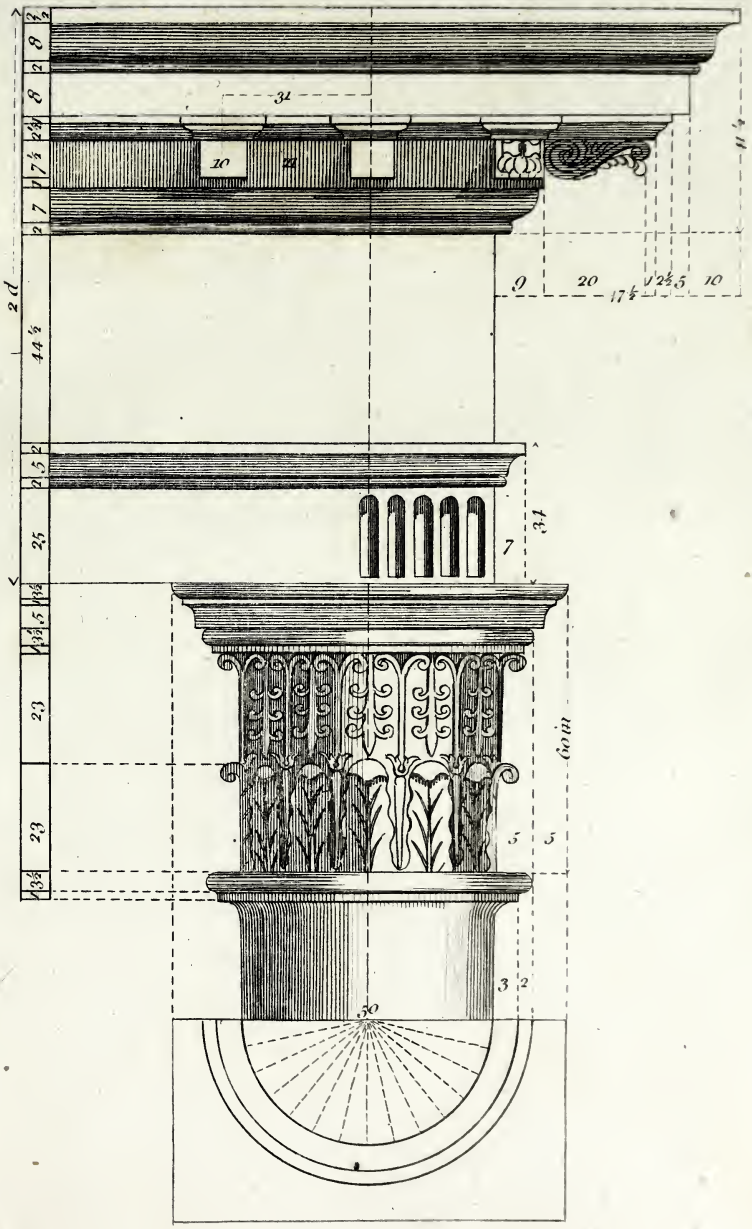
To proportion the Composite order: suppose the scale *a b* to be a given height, divide it into 15 parts, give 3 to the pedestal, 2 to the entablature, and 10 to the column, including base and capital, each part equal to one diameter, and that to be divided into 12 parts, and one of those parts into 5, and dispose them to the mouldings in height and projection, as figured.

To proportion on a sub-plinth: divide *c d* into 13 parts, one is the diameter of the column, give one to sub-plinth, 2 to the entablature, and 10 to the column, including base and cap; suppose *e f* to be a given height to stand on its own plinth, divide it into 12 parts, one is the diameter of the column at bottom, to be divided as before for a scale to work by.

*To face Plate* XXVIII.

The Composite entablature and capital, with the plan of the cap, the column diminishes one sixth part of the diameter; the height of the cap is 60 minutes, or one diameter of the column; the height of the architrave 34 minutes; the frize 44½; the cornice 41½; the profile of ditto 48; the width of the modillion 10 minutes; from centre to centre of modillion 31 minutes, the interval between 21 minutes.

For setting out the flutes in the architrave; divide from the central line to the face of architrave into 14 parts, give 2 to a flute, and one to a fillet.

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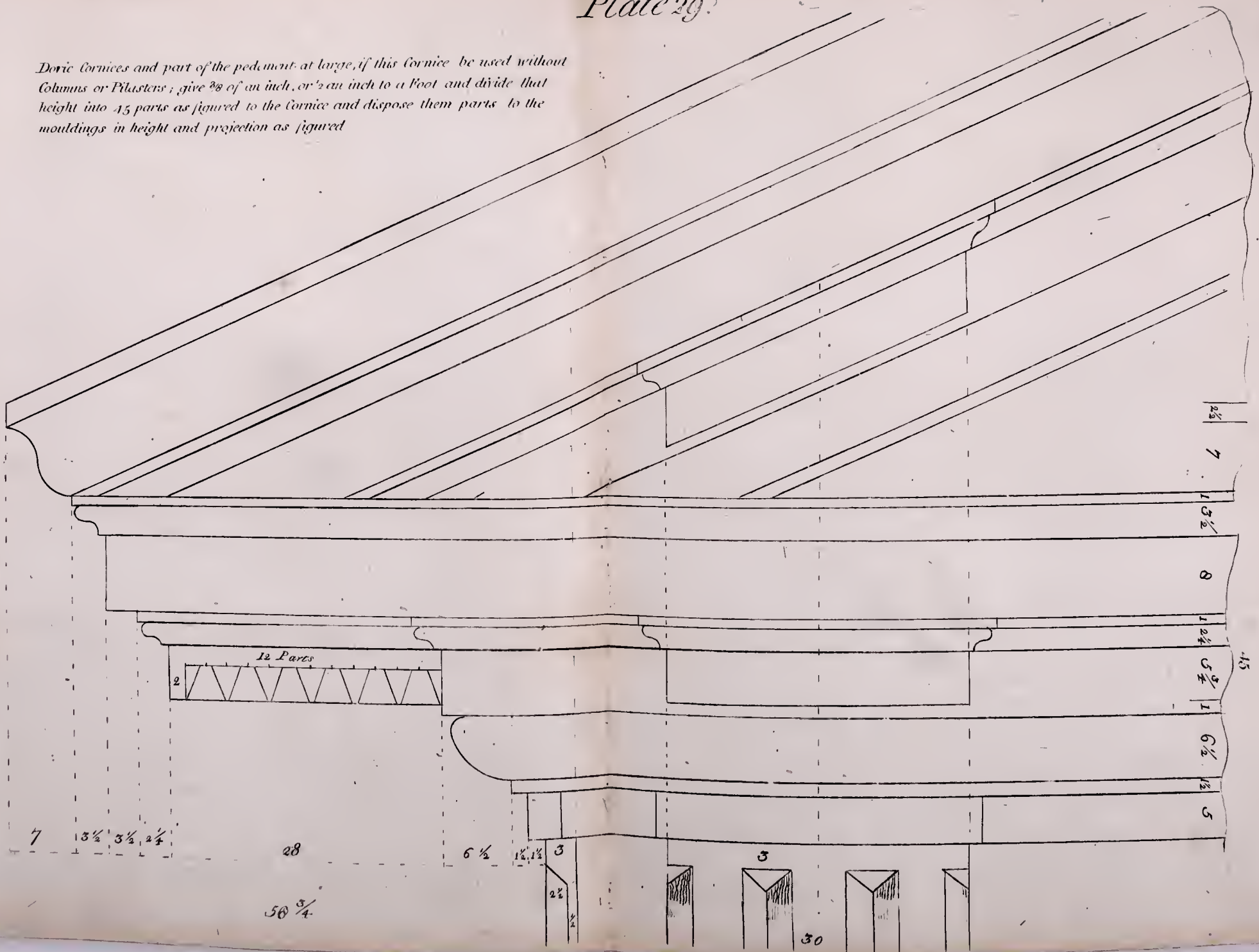
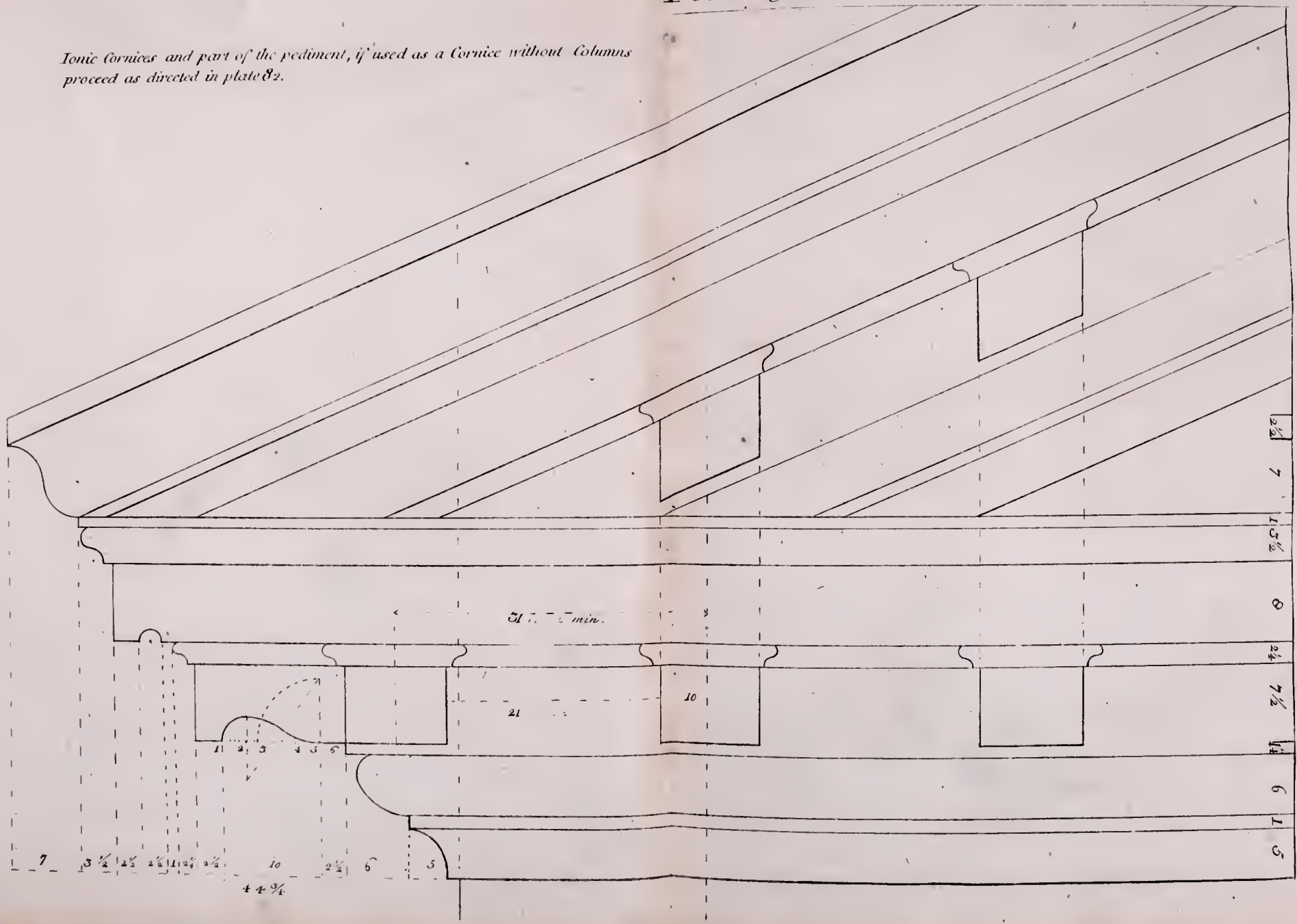
# Plate 29.

*Doric Cornices and part of the pedament at large, if this Cornice be used without Columns or Pilasters; give 3/8 of an inch, or 1/2 an inch to a foot and divide that height into 15 parts as figured to the Cornice and dispose them parts to the mouldings in height and projection as figured*



# Plate 30.

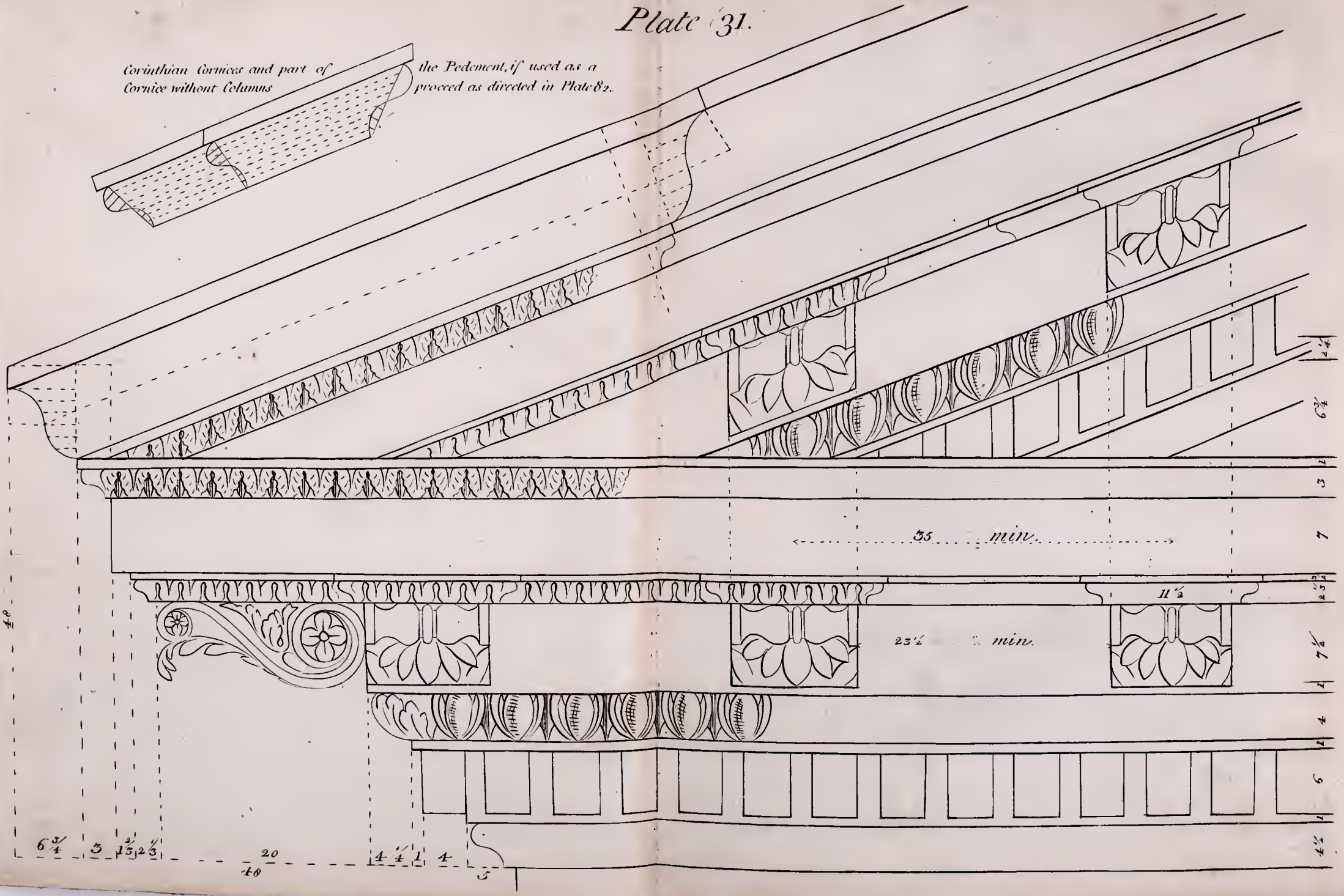
*Ionic Cornices and part of the pediment, if used as a Cornice without Columns proceed as directed in plate 82.*



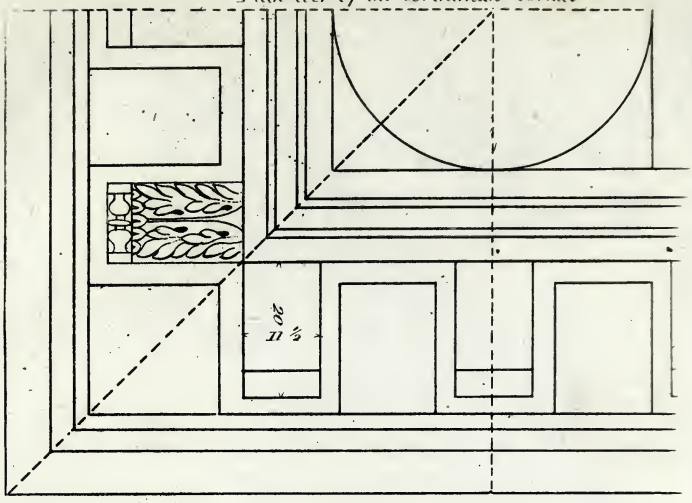
# Plate 31.

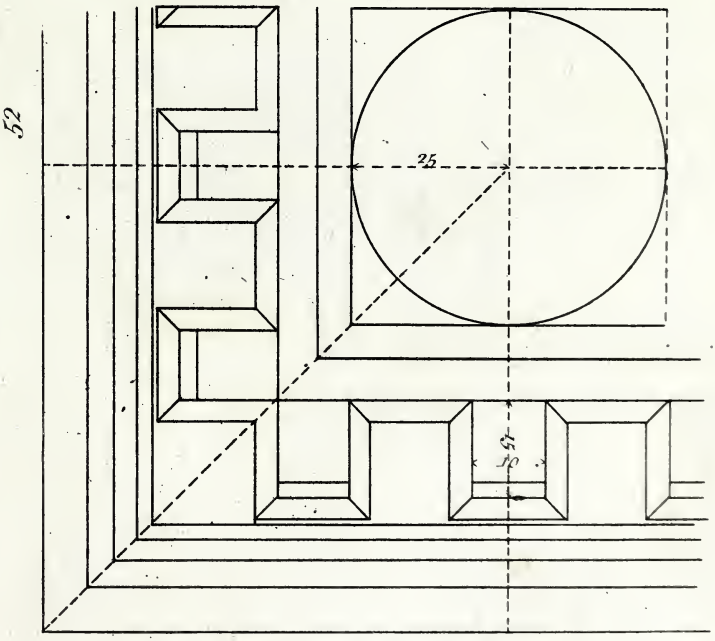
*Corinthian Cornices and part of Cornice without Columns*

*the Pedement, if used as a proceed as directed in Plate 82.*



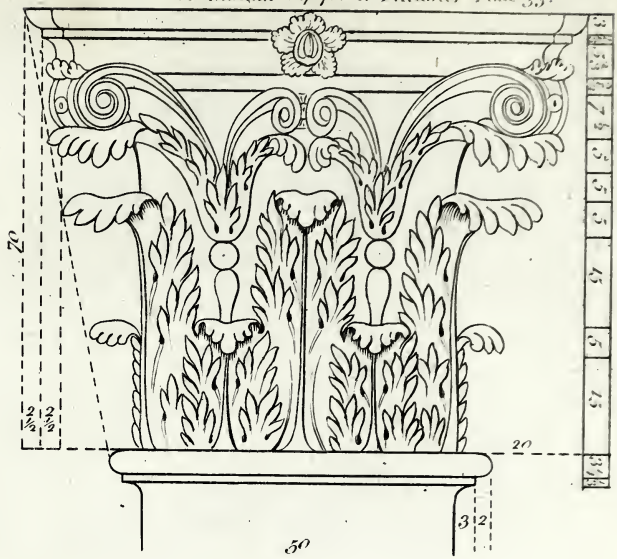
Plan-ceer of the Corinthian Cornice

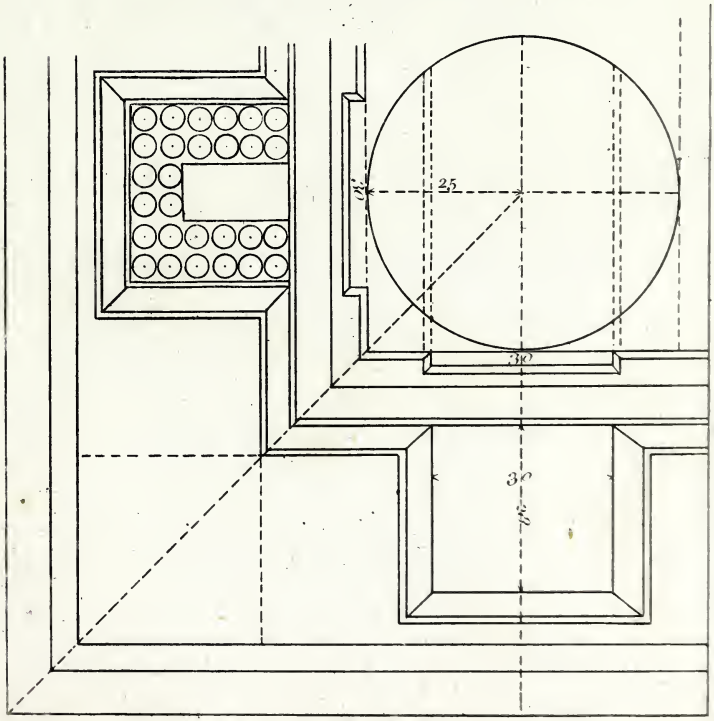



Plan-ceer of the Ionick Cornice

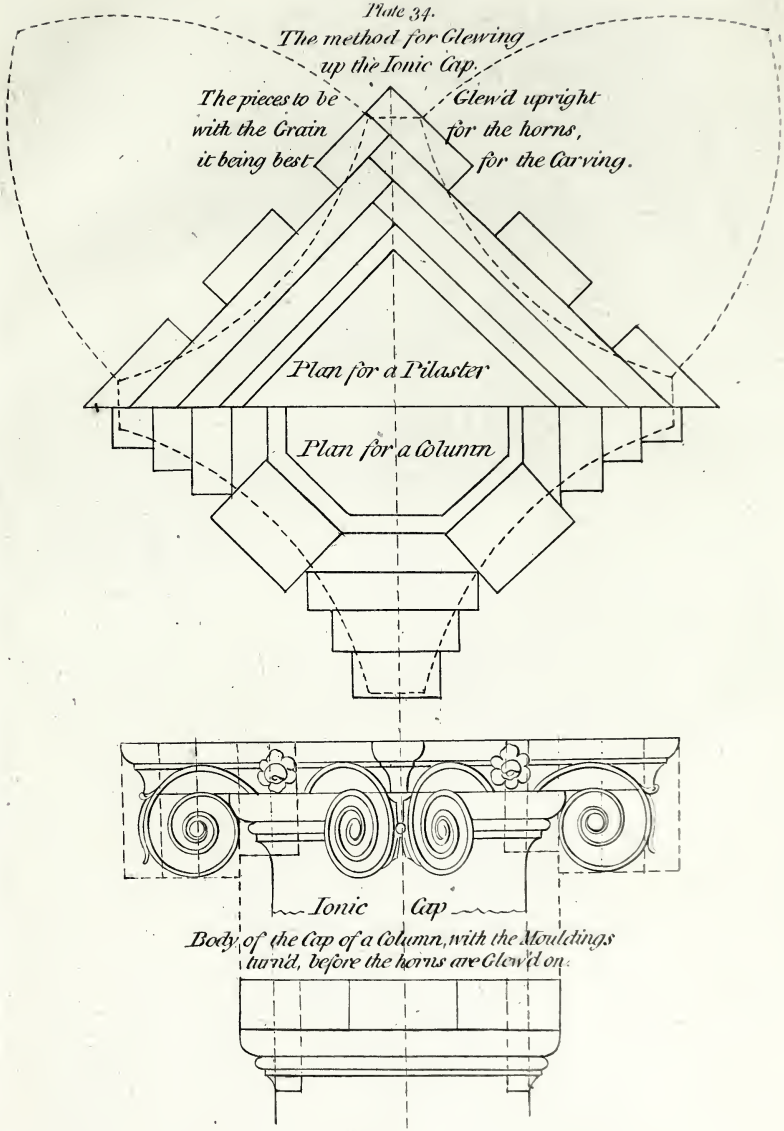
*Corinthian Cap for a Pillaster Plate 33.*




*Plan over of the Doric Cornice*

Plate 34.


The method for Glewing up the Ionic Cap.
The pieces to be with the Grain it being best
Glew'd upright for the horns, for the Carving.
Plan for a Pilaster
Plan for a Column
Ionic Cap

Body of the Cap of a Column, with the Mouldings turn'd, before the horns are Glew'd on.

*Plate 35.*

## *The method for Glewing up the Corinthian Cap.*

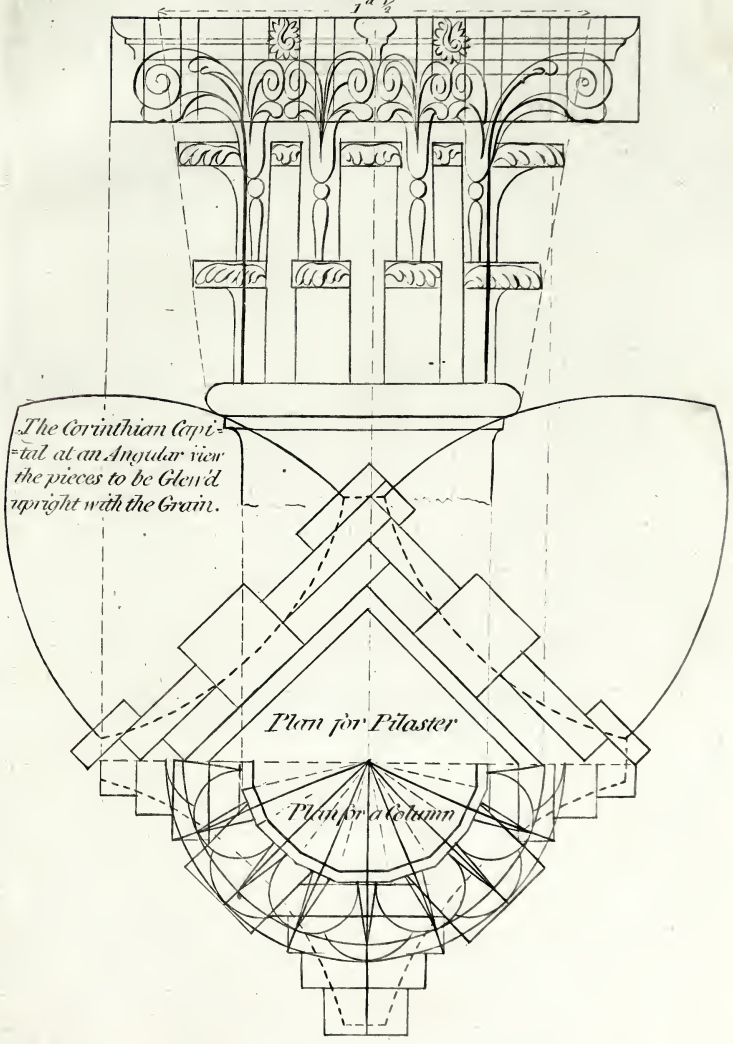


Plate 36.

*The Corinthian Cap to a large Scale for Practice with the Plan &c.*

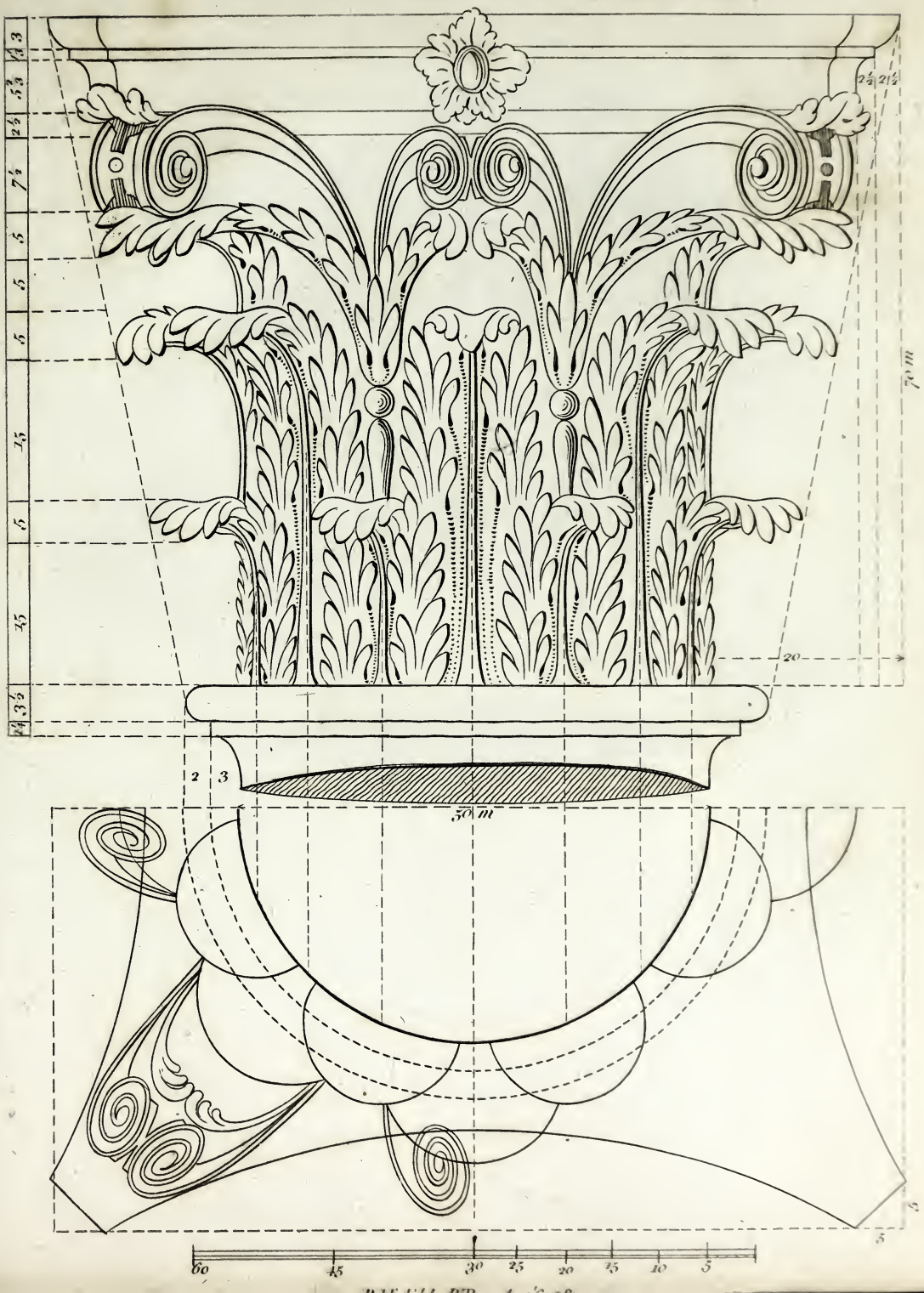
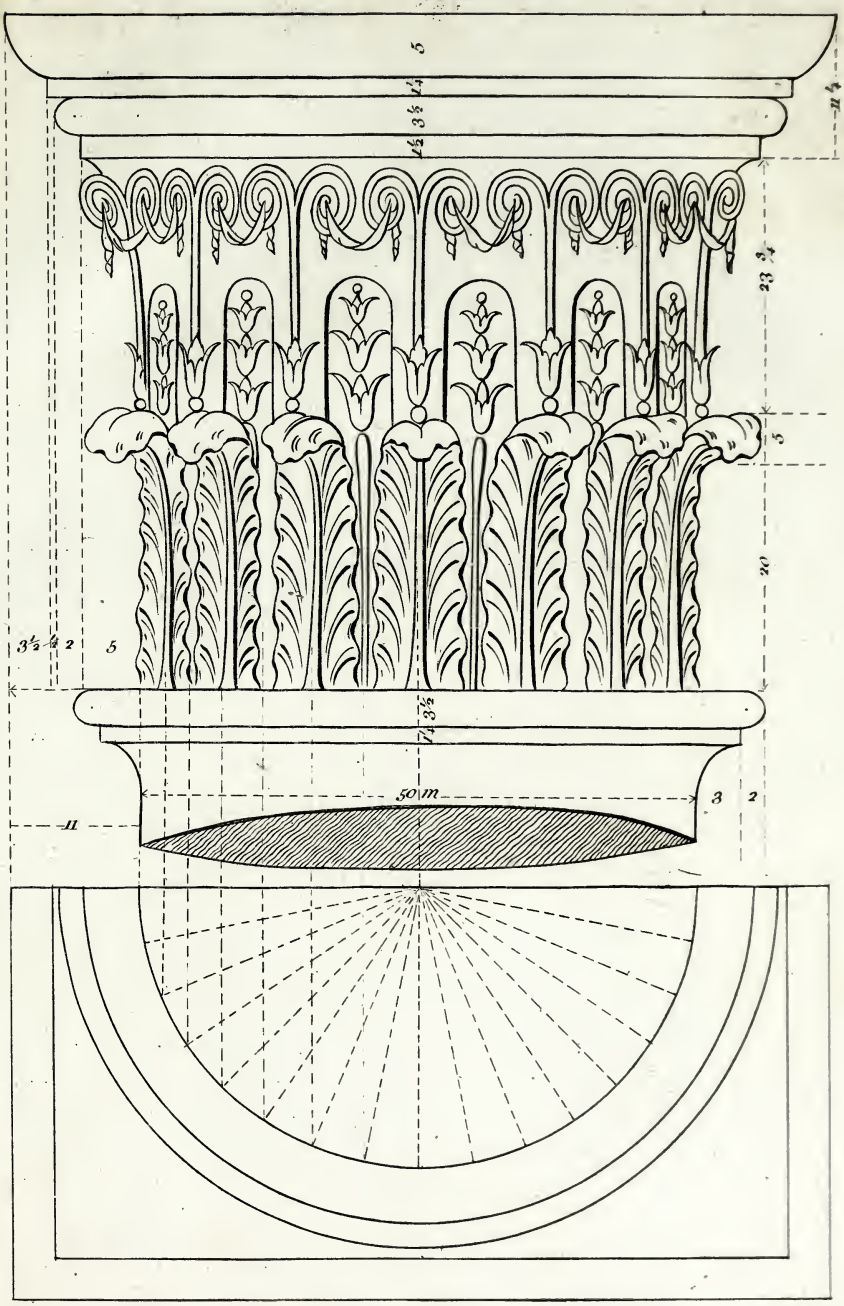
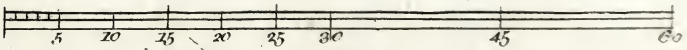


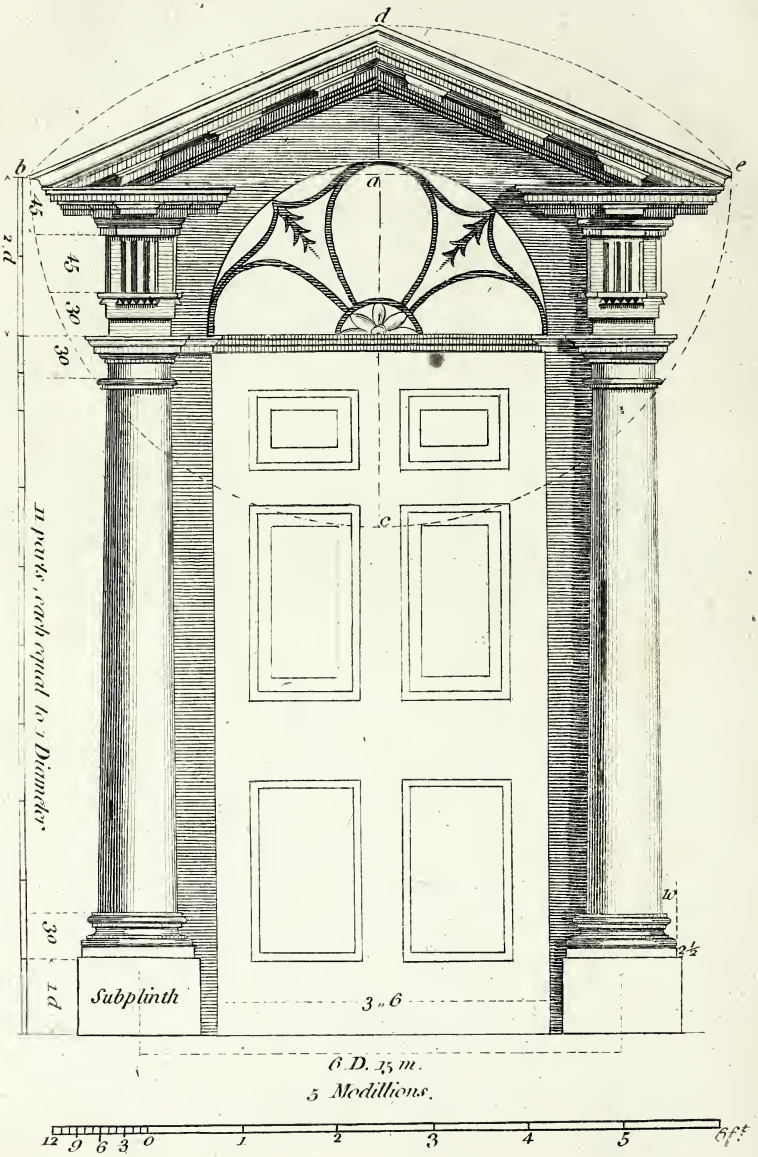
*Plate 37.*
*the Composite Cap at Large*




*Publish'd by W. Pain August 6. 1789.*

*Plate 38.*




*Publish'd July 20, 1780, by W. Pain.*

*To face Plate* XXXVIII.

Doric front drawn half an inch to a foot: the clear passage 3 feet 6 inches, the height 7 feet 2 inches, the height of the column 7 feet 4 inches, to be divided into nine equal parts, one of which parts will be the diameter of the column at bottom; give one of them to the sub-plinth, half a one to the base, half a one to the cap of the column, and 2 to the entablature, that will be 30 minutes to the architrave, 45 minutes to the frize, and 45 minutes to the cornice; the distance from centre to centre of the columns is 6 diameters 15 minutes, which will take 5 modillions; to find the pitch of the pediment set the compasses at *a* in the tympan of the pediment, and draw the circle *b c e*, then set the compasses at *c*, and draw the arch *b, d, e*, which gives the height of the pediment at *d*; this method will give the pitch of any pediment.

*To face Plate* XXXIX.

Ionic front, drawn half an inch to a foot: the clear passage of the door 3 feet 8 inches, the height 7 feet 7 inches; the height of the column 7 feet 9 inches, to be divided into 10 parts; one is the diameter of the column at bottom; give one to the sub-plinth, half a one to the base of the column, half to the cap of the column, and 2 to the entablature; that is, 35 minutes to the architrave; 40 to the frize; and 45 to the cornice; the distance between the central lines of the column is 6 diameters 43 minutes, which takes 13 modillions at 31 minutes, from centre to centre of modillion; the interval between the modillions 21 minutes; the breadth of the modillion 10 minutes; the pitch of the pediment found the same as in the Doric front.

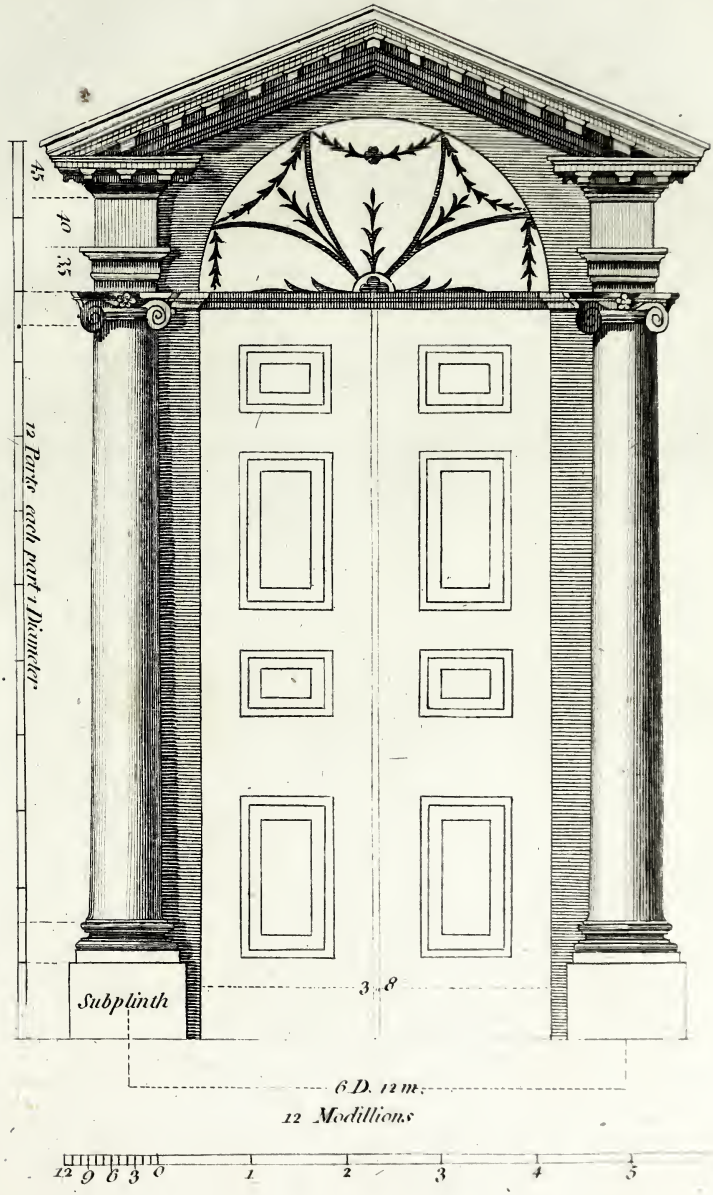



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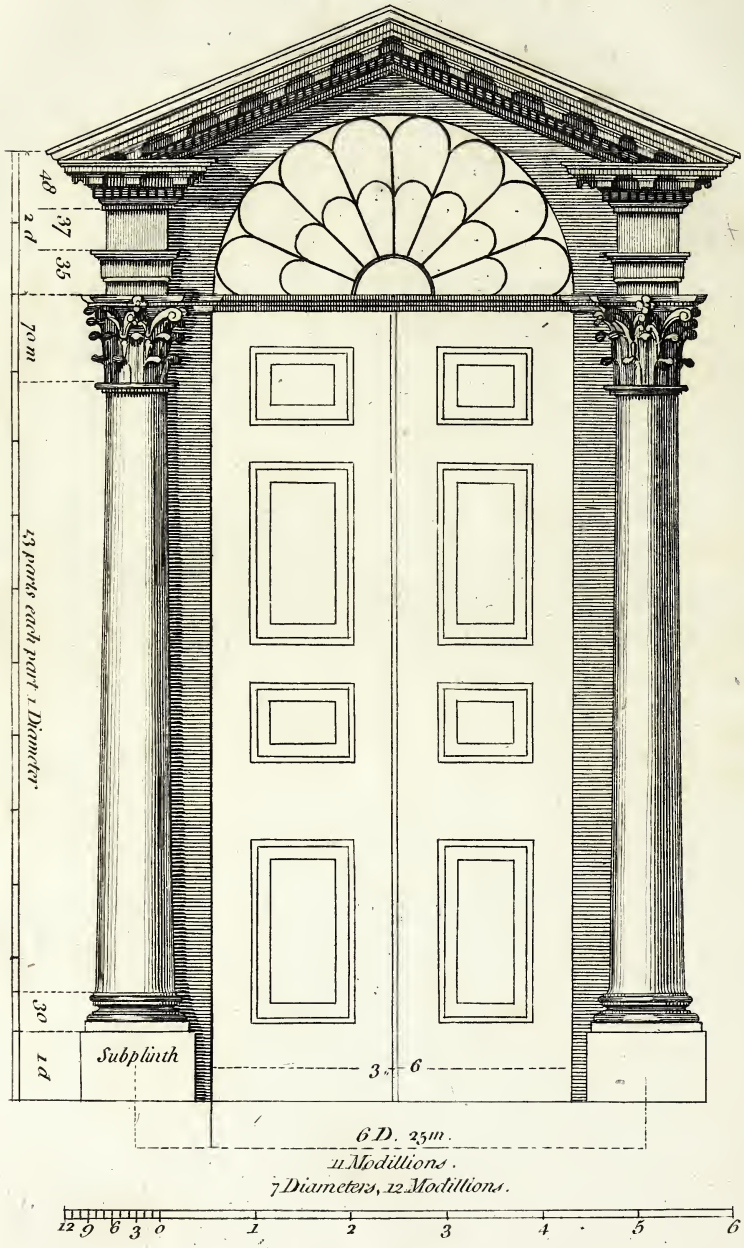
*Plate 40.*




*Publish'd July 29 1789. by W. Pain.*

*To face Plate* XL.

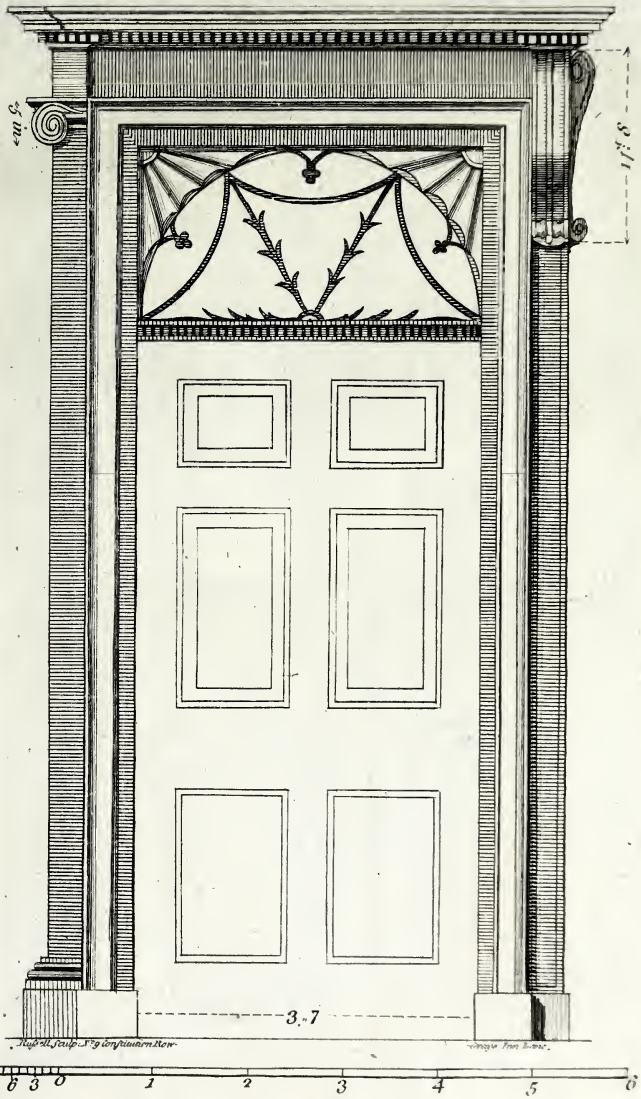
Corinthian front drawn half an inch to a foot; the clear passage of the door 3 feet 9 inches, the height 8 feet 3 inches, height of the column 8 feet 5 inches, to be divided into 11 parts; one of those parts is the diameter of the column at bottom; give one to the sub-plinth, one and one sixth to the cap of the column, which is 70 minutes: and 2 diameters to the entablature, that is, 35 minutes to the architrave, 37 to the frize, and 48 to the cornice; the distance from centre to centre of the column, which is 7 diameters of the column, which takes 12 modillions, at 35 minutes from centre to centre of modillion; the breadth of modillion $11\frac{1}{2}$ minutes, the interval between $23\frac{1}{2}$.

*Note,* Front doors, that have any of the orders for their dressing, should not be less than 3 feet 6 inches wide, the height twice the width and one sixth part or thereabouts, and that may be the height of the column, then the abacus will be taken out of that, to part the door and fan-light, &c.

## *To face Plate* XLI.

Door and dressings with architraves and side pilasters; one side an open pilaster and truss, the other a plain pilaster, quarter cap of the antique Ionic; the pilaster may be fluted with three flutes on the face, or four if required; the clear passage of the door 3 feet 7 inches, the height 7 feet 6 inches; the impost between the door and fan-light $2\frac{1}{2}$ inches, the fan-light a semicircle; the width of the architrave one seventh part of the width of the door; the side pilasters two thirds of the architrave breadth; the frize equal to the breadth of the architrave; the cornice may be three fourths or five sixths of the architrave's breadth; the truss 1 foot 8 inches; the profile or projection of the truss may be 3 inches or $3\frac{1}{2}$; the height of the quarter cap about 5 inches; the measures to be taken from the antique cap, Plate XVI.

*Plate 41.*




*Publish'd July 20 1789 by W. Pain.*

*Plate 42.*

*Inside Door and Dreſsing.*

*Cap at large for pilaster Plate. 43*

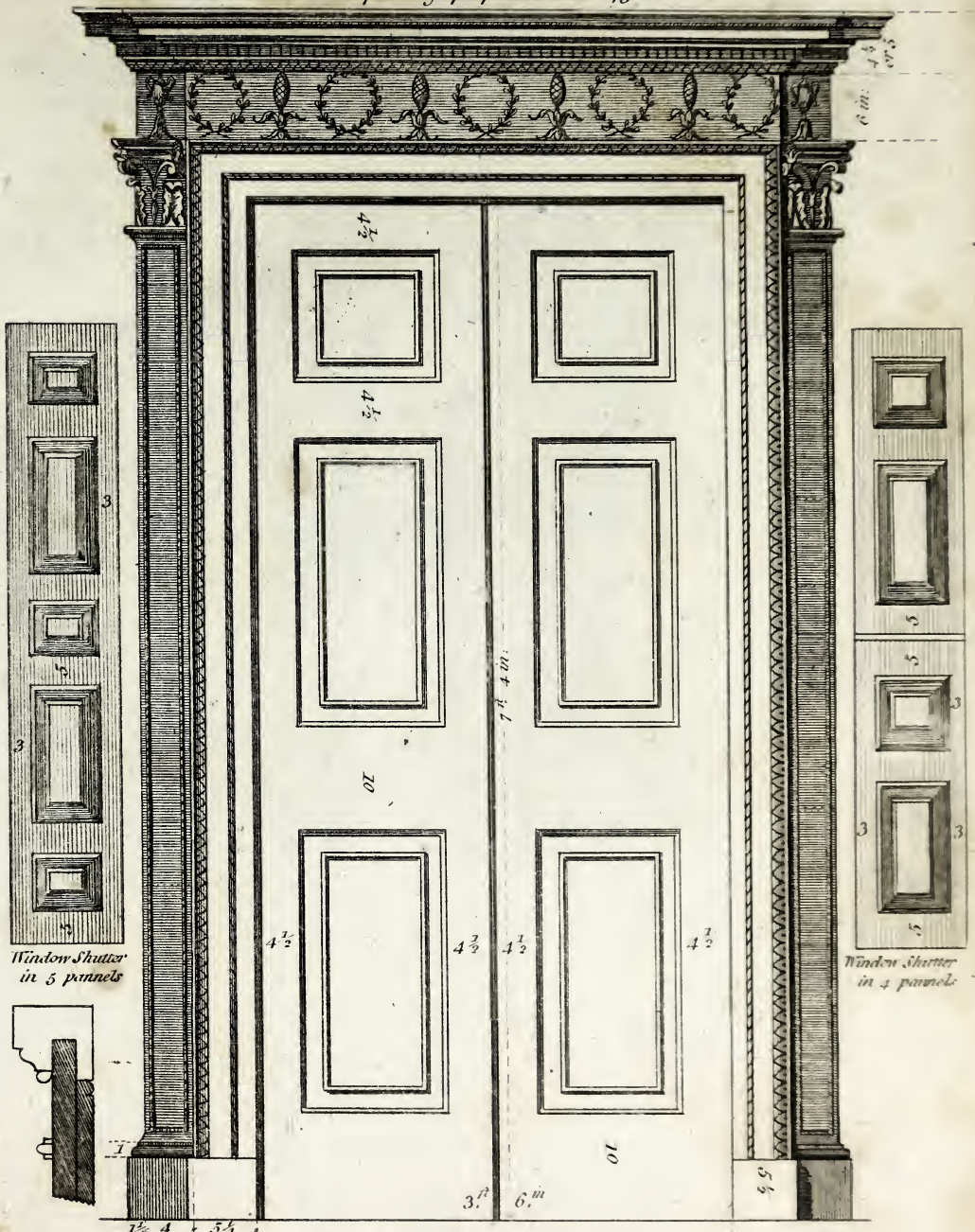
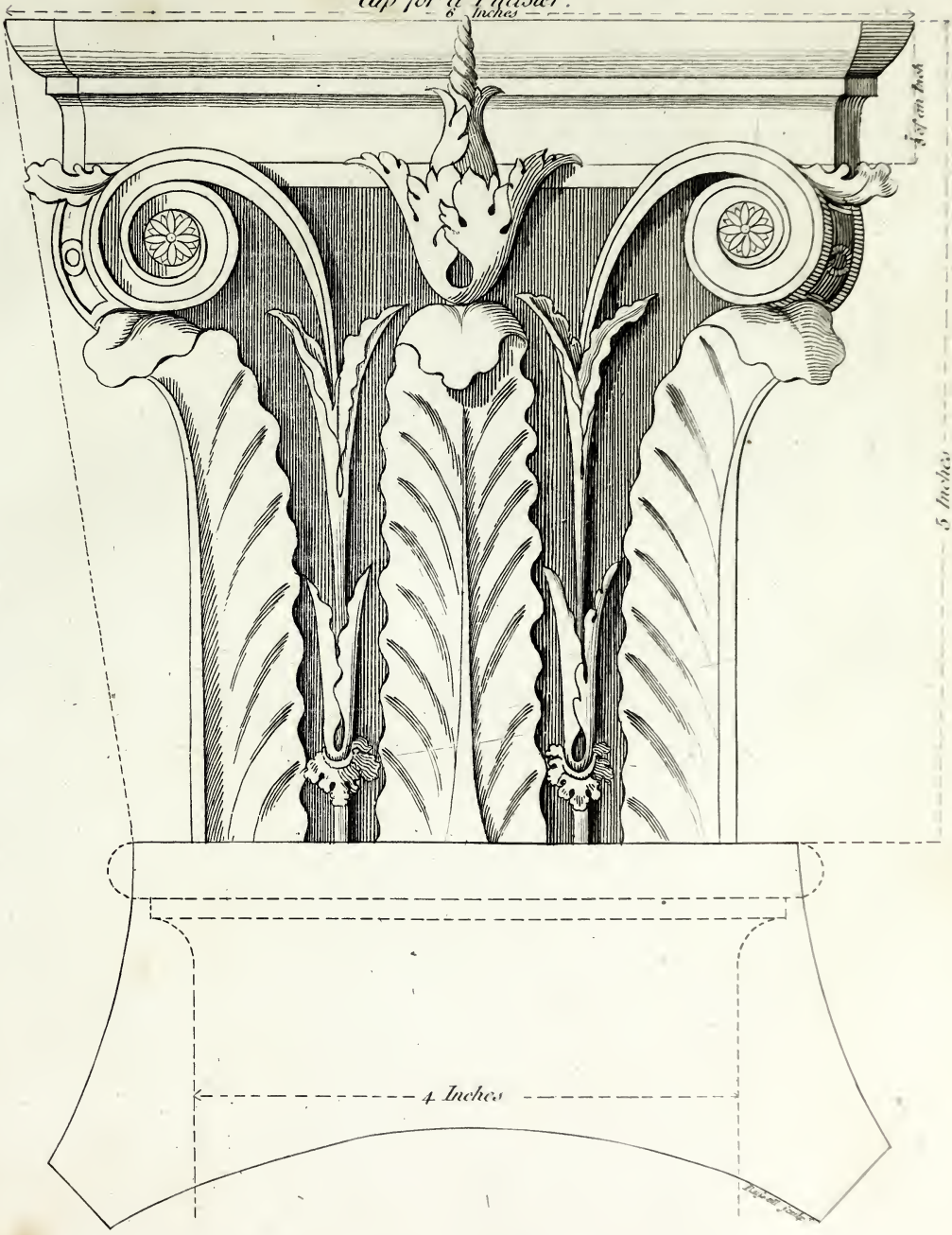


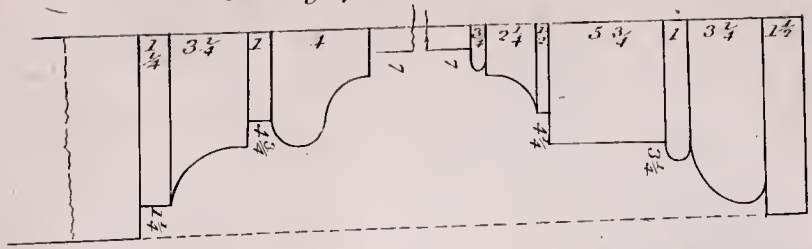
Plate 43.

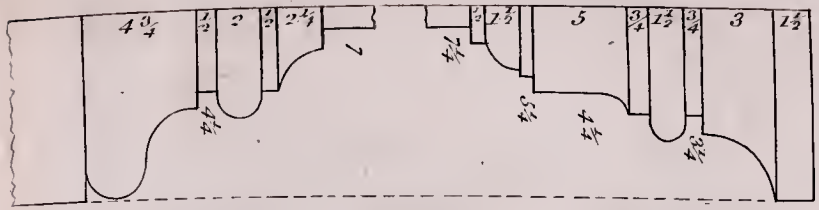
## Cap for a Pilaster.




Published Augst 21: 1780 by W. Pain.

Mouldings for Base and Surbase

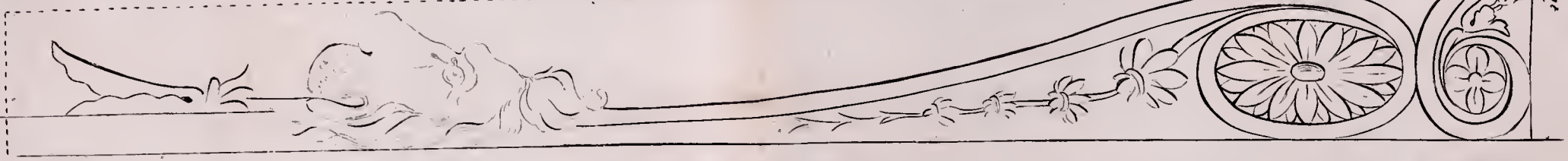




Two Designs for trifoses figured full size for practice

10 Inches, or 1 Ft.

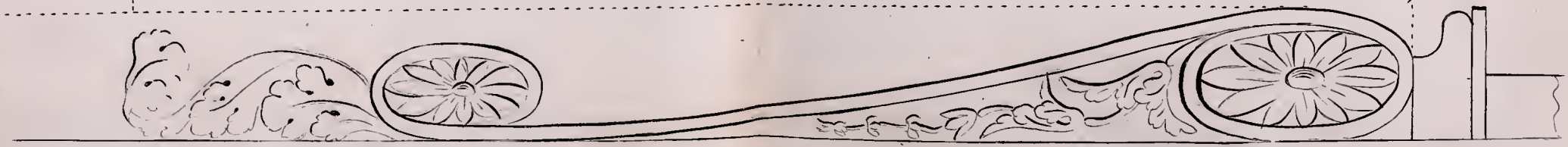
3 Inches or 4.



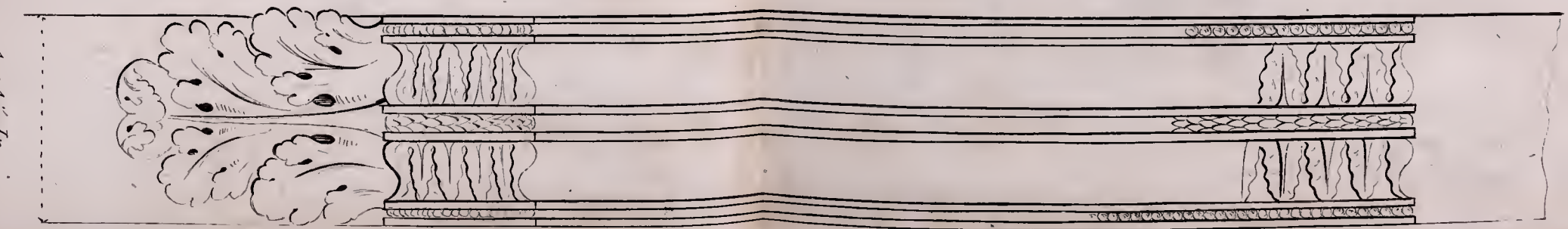
4 or 4½ Inches.

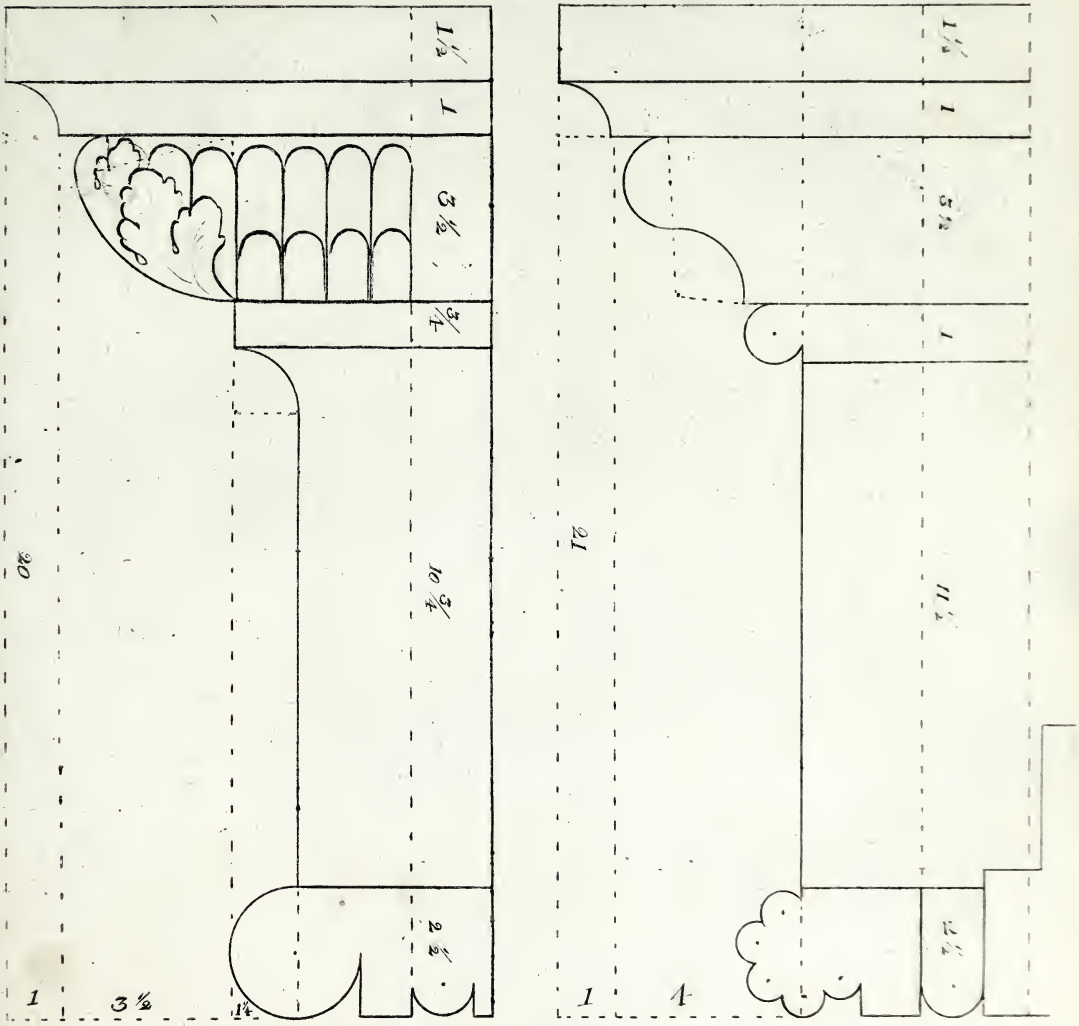
from 1 foot 6. to 2 feet

3 In. or 4



4 or 4½ In.




1 1/2
1
3 1/2
3/4
20
10 3/4
2 1/2
1
3 1/2
1/4
21
11 1/2
1
4

## Architraves full size for Practice

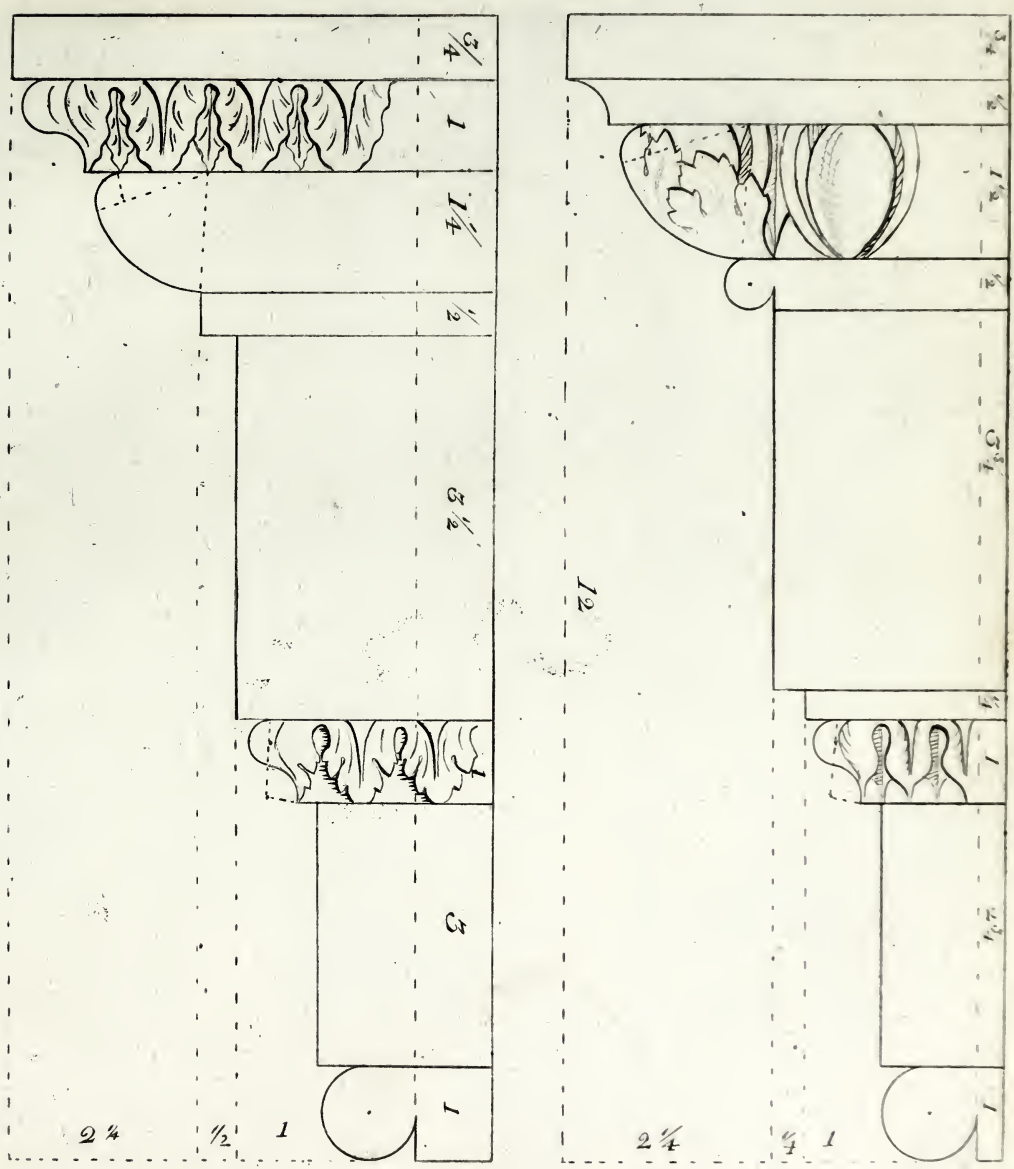


*Plate 47.*

*Three Designs for Base and Surbase full size for practice*

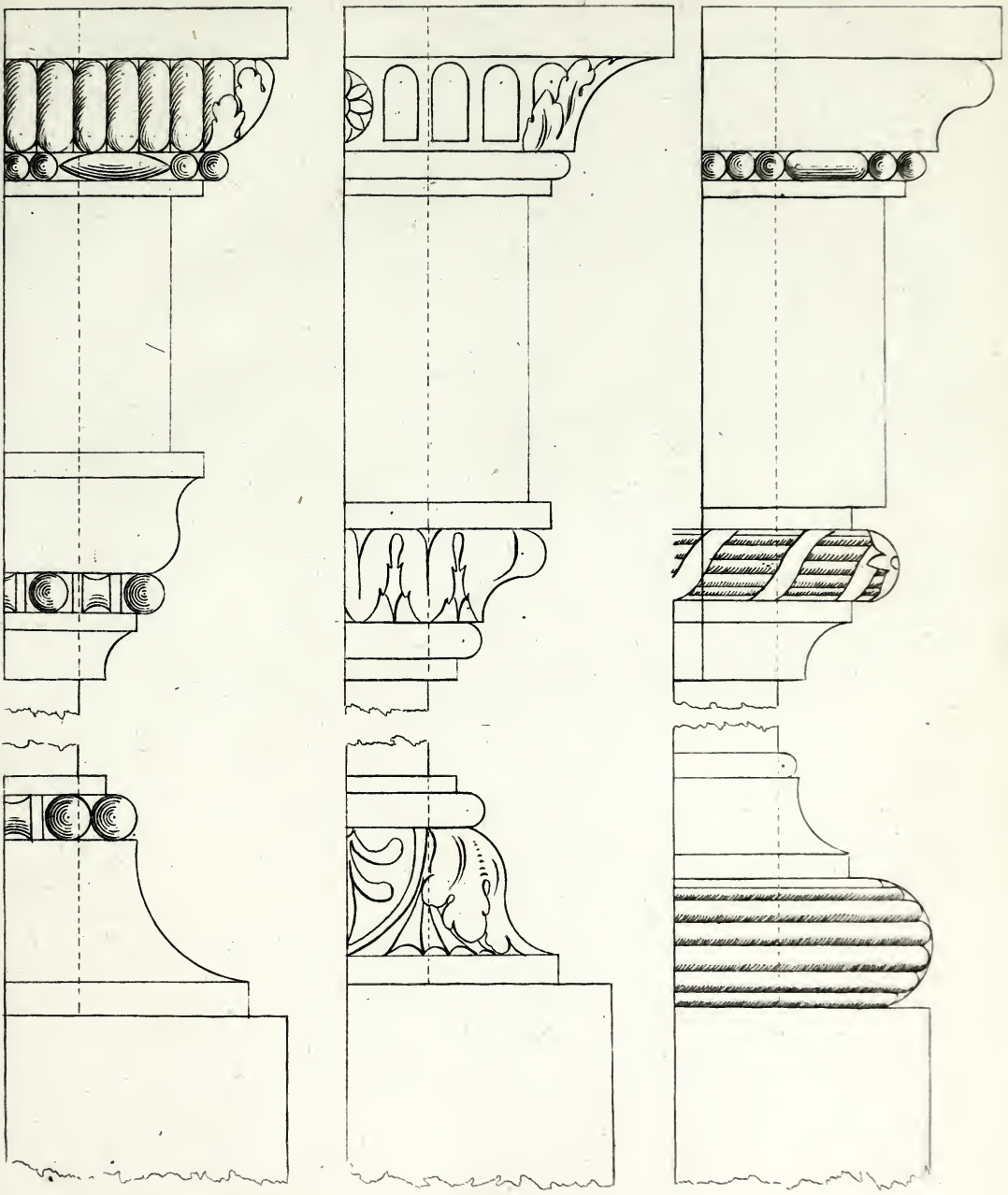
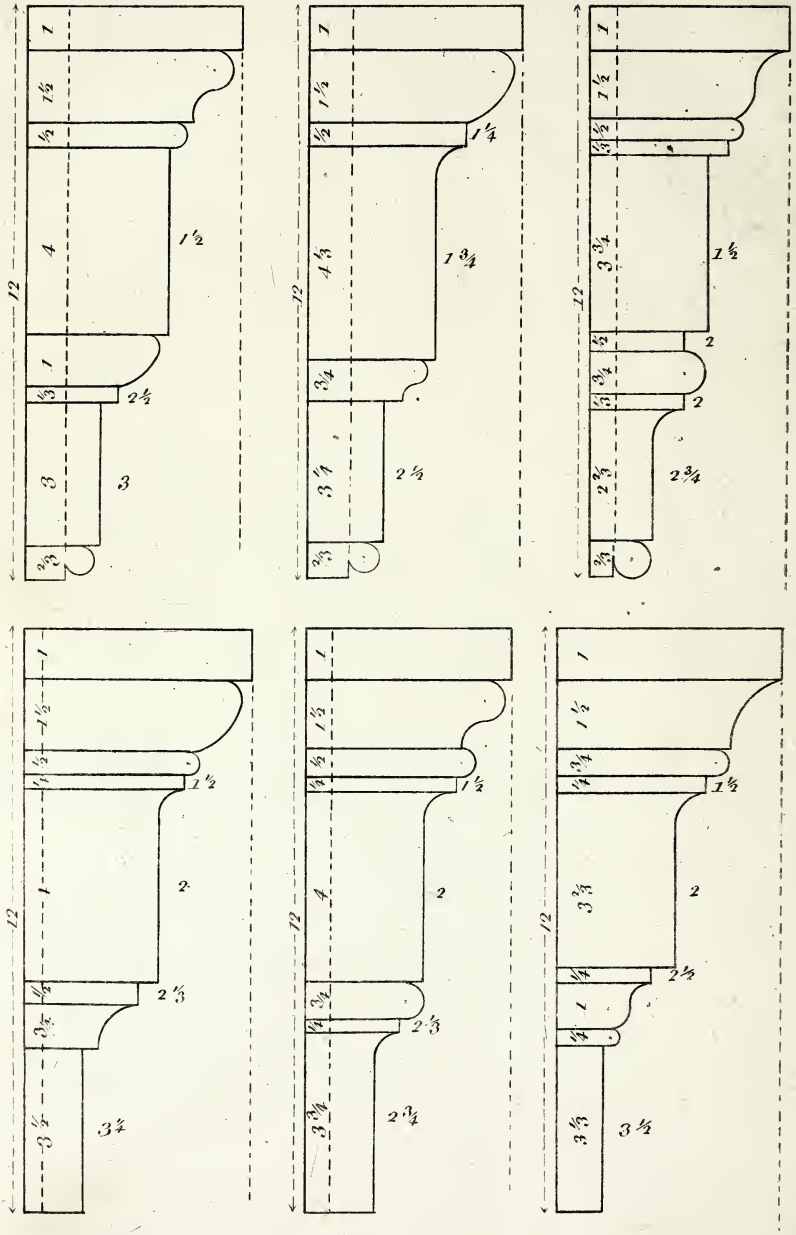


*Plate 18.*


12
1
1½
½
4
1½
1
⅓
2½
3
3
⅔
12
1
1½
½
1¼
4⅓
1¾
¾
3¼
2½
⅔
12
1
1½
⅓
3¾
1½
½
2
¾
2
2⅔
2¾
⅔
12
1
1½
½
1½
1
2
¼
2⅓
¾
3½
3¼
12
1
1½
½
1½
4
2
¾
2⅓
¼
3¾
2¾
12
1
1½
¼
1½
3⅓
2
¼
2½
¼
1
¼
3⅓
3½

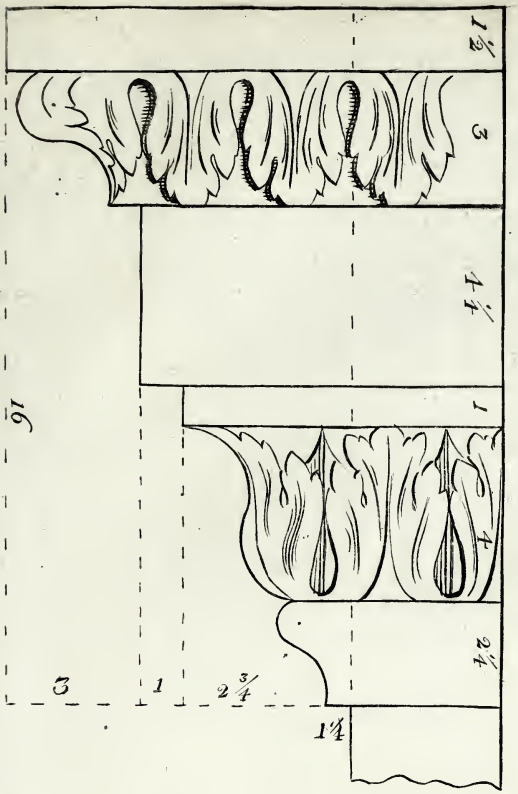
*To face Plate* XLVIII.

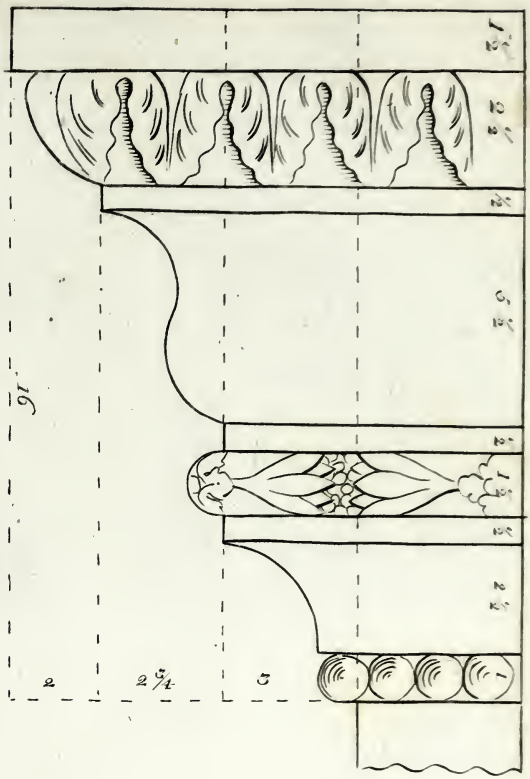
The proportion of architraves to doors, windows, &c. Give the width of the architrave, one seventh or eighth part of the door, divide that into 12 parts, and dispose the parts to the faces and mouldings, as figured; if frize and cornice to the doors, give the frize equal to the width of the architrave; but if any particular ornament is to be put into the frize, it must be one fourth or one eighth part wider than the architrave; the cornice three fourths or five sixths of the architrave's breadth; the side pilaster two thirds of the architrave's breadth; to proportion impost to arches, for the height of the impost including the necking, divide from the floor to the springing of the arch into 20 parts, take one for the impost, including the necking, and divide the height into as many parts as in the impost you make use of, and dispose those parts to the mouldings in height and projection, as figured.

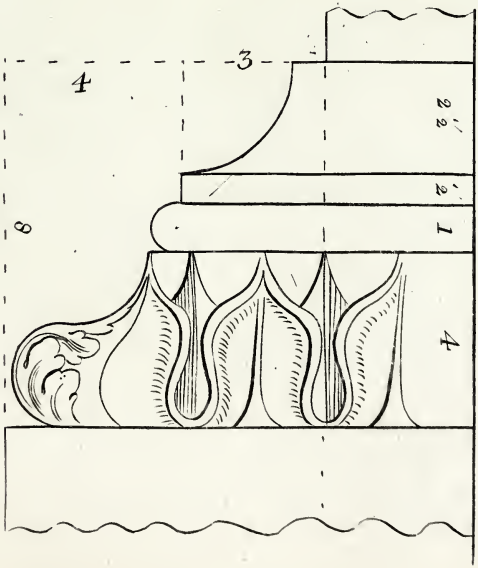
*To face Plate* **XLIX.**

To proportion base and surbase mouldings to the pedestal part of rooms: the height from 2 feet 6 inches to 2 feet 10 inches from the floor to the top of the capping; divide that height into 9 parts, give one to the surbase, and one half or two thirds to the base, and give one and one third to the plinth; the ninth part to be divided into as many parts as are contained in the surbase you make use of; likewise the two thirds, or the one half, to be divided into as many parts as are contained in the base moulding you make use of, and those parts to be disposed to the moulding in height and projection, as figured.

*Note*, That the base and surbase mouldings are full size for practice: but, if required to be larger or smaller, the above directions will answer.


1½
3
4½
1
4
2¼
16
3
1
2¾
1¼


16
2
2¾
3


4
3
8
2½
2
1
4

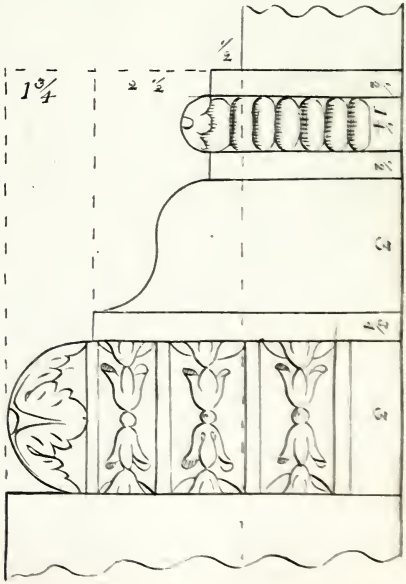
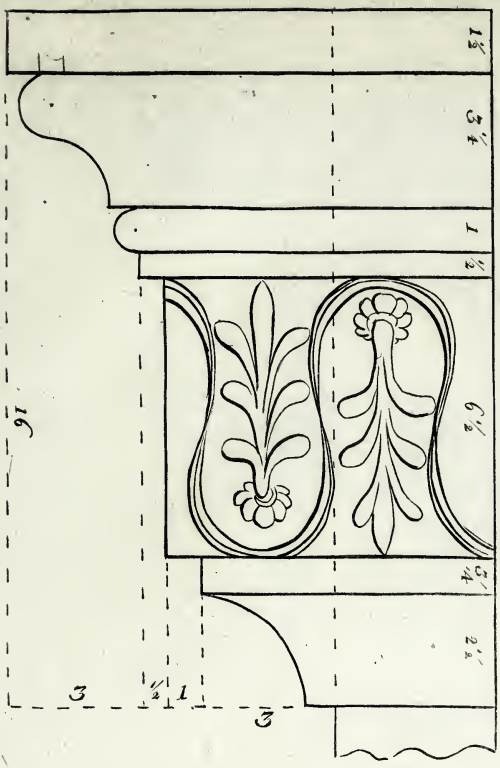
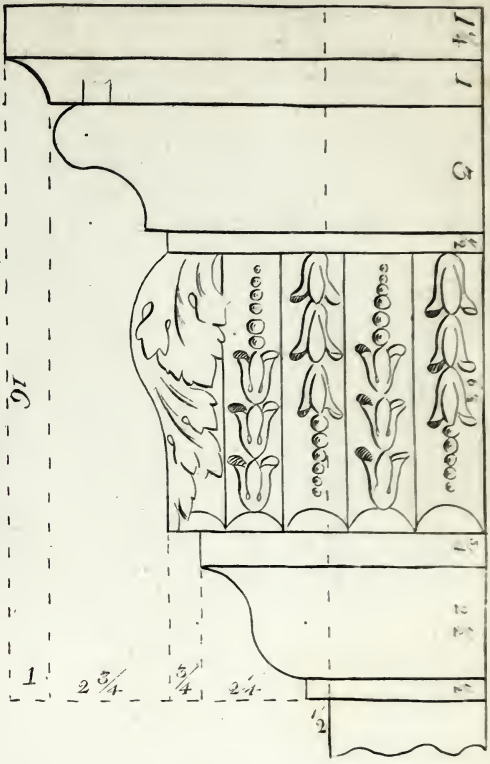
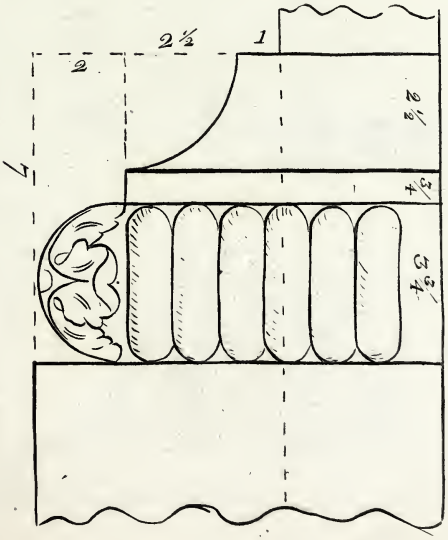

1¾
2½
1½
3
3
2

*Plate 50.*

*Base & Surbase Full size*



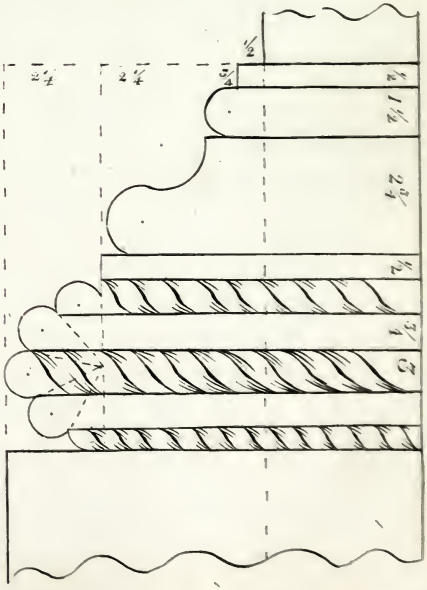



*Plate 51.*

*Base and Surbase full Size*

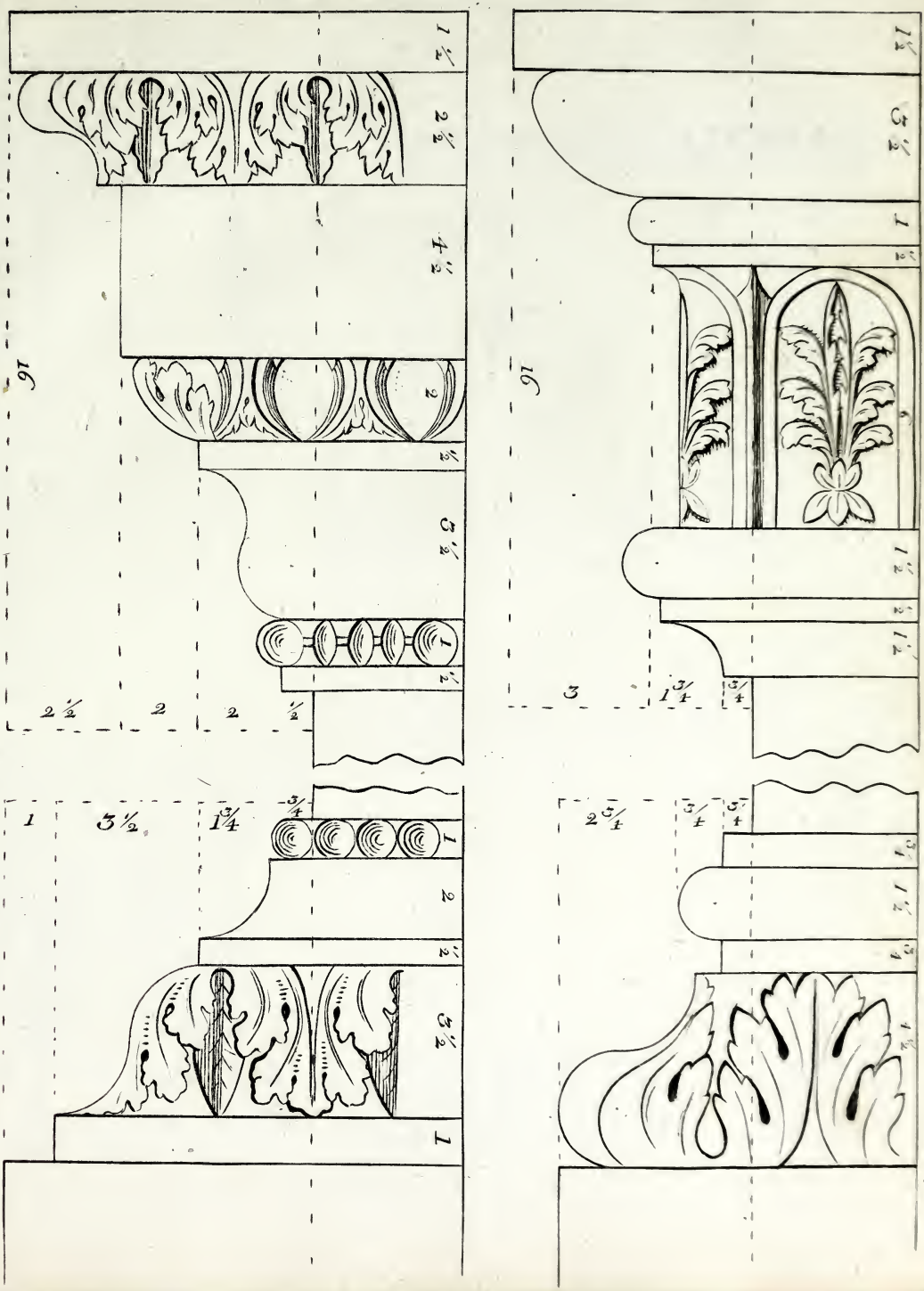
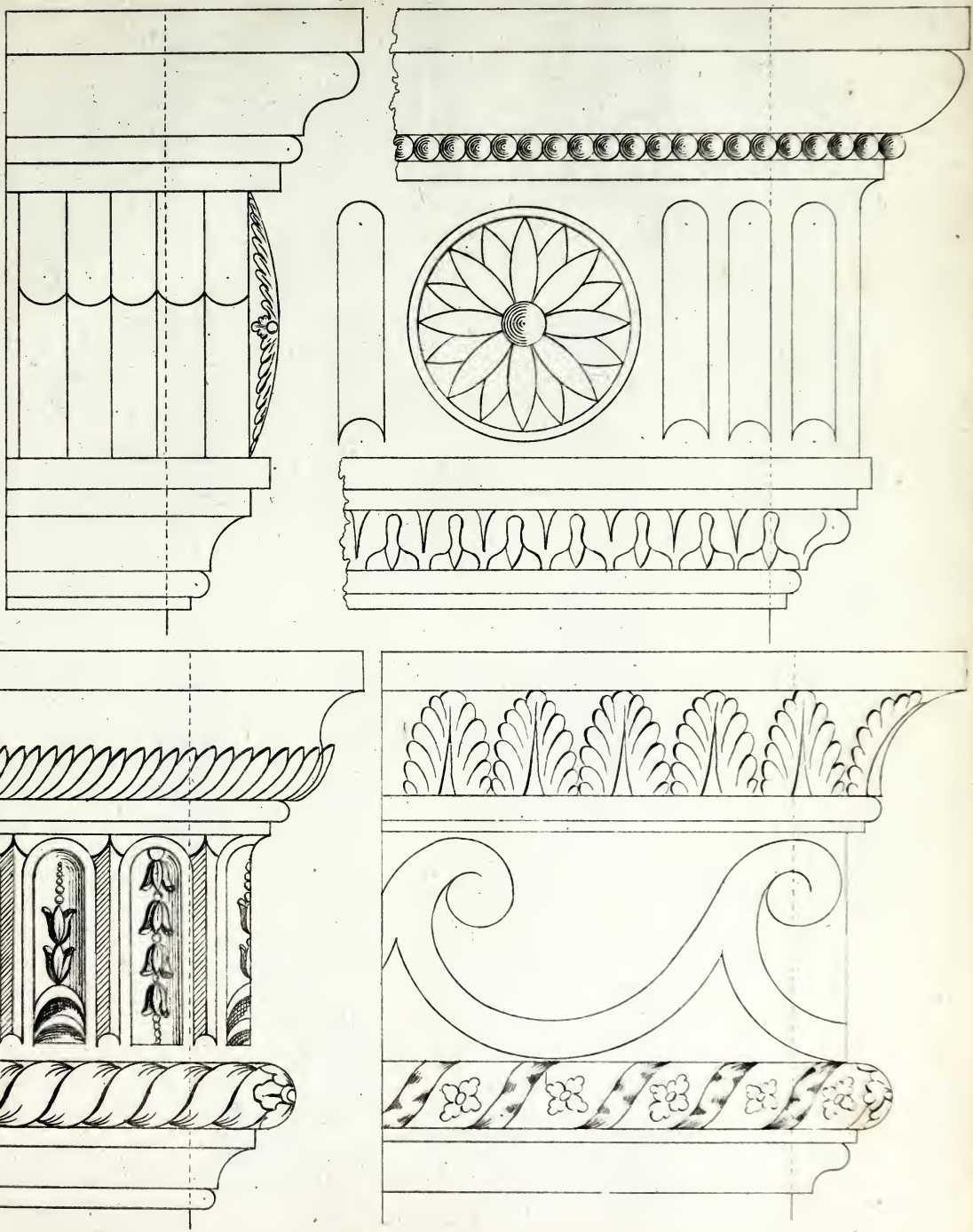
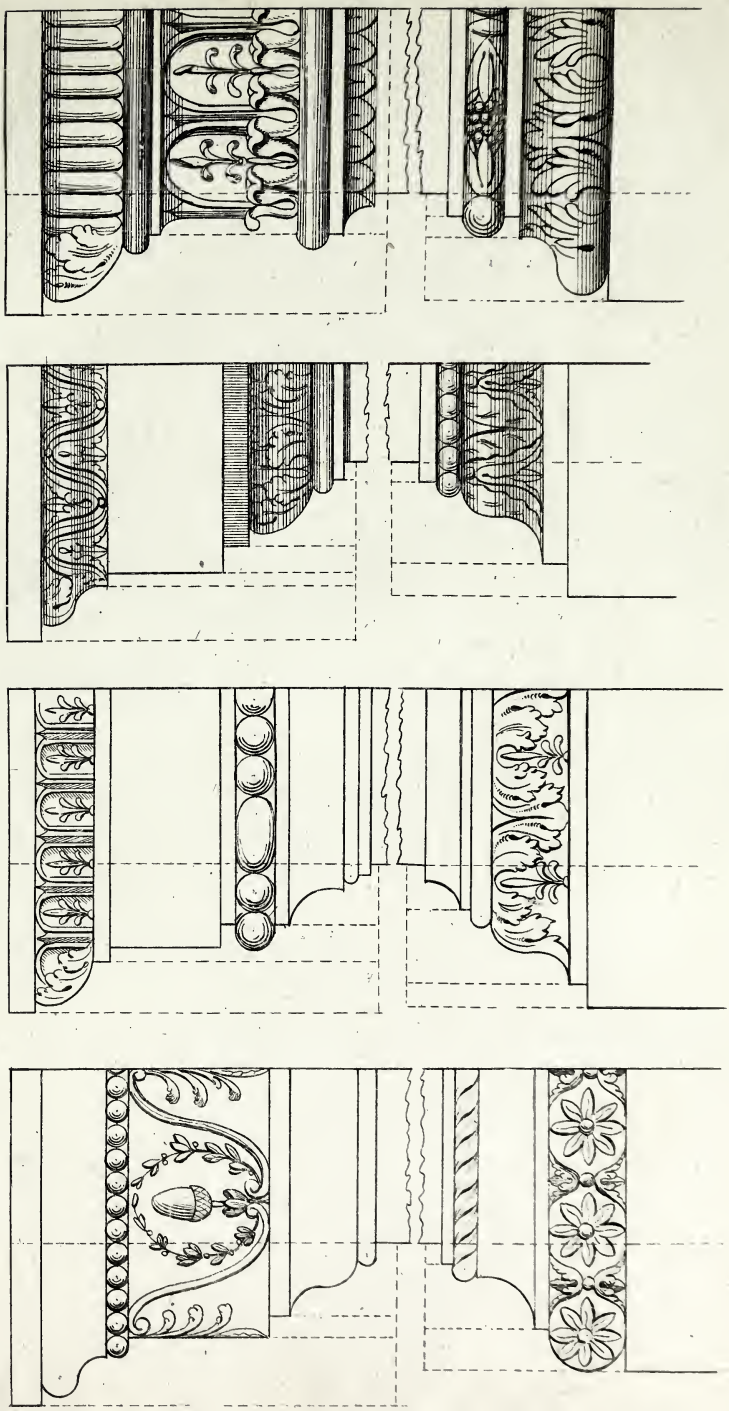


*Plate 32.*

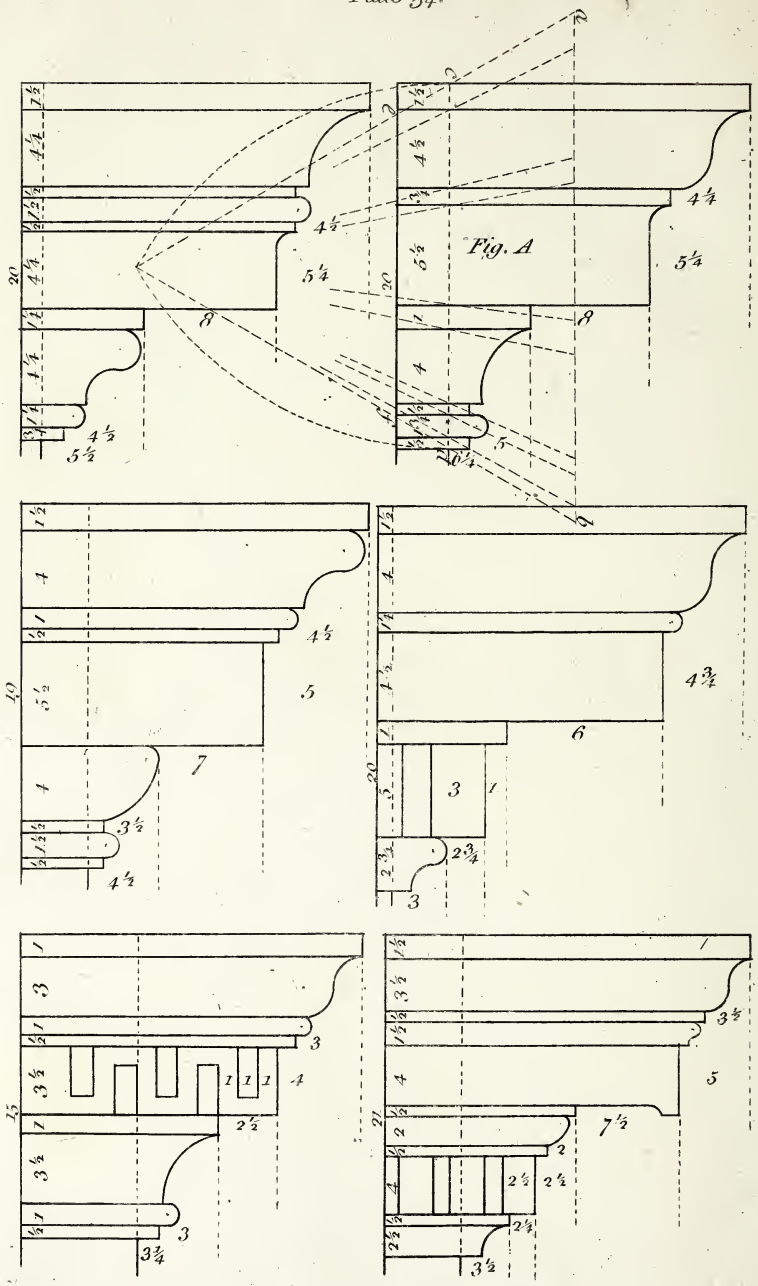
*Four Designs for Surbase full size for practice.*





Base and Surbase half Size

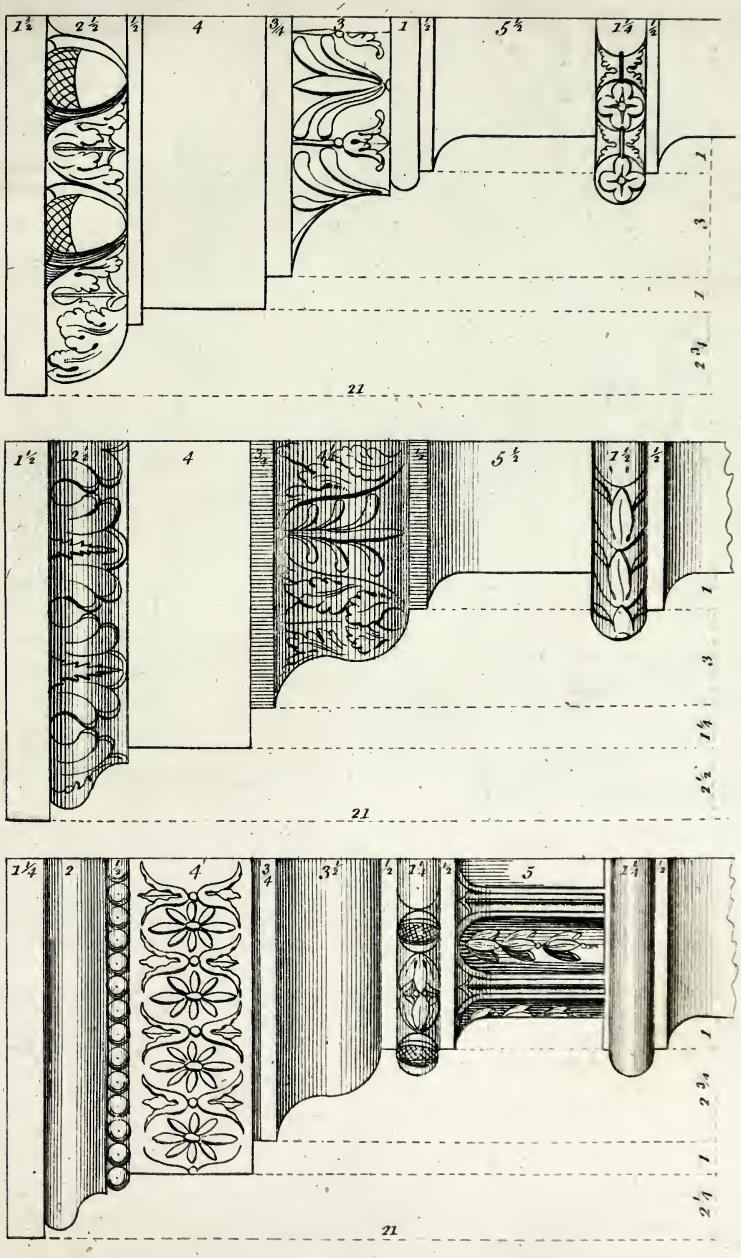
Plate 54.



*To face Plate* LIV.

To proportion the cornice and frize to rooms, or any place required: give them three fourths of an inch to a foot, including the frize and necking; suppose them to be 14 feet, more or less; at 14 feet the cornice and frize, including the necking, will be $10\frac{1}{2}$ inches; divide that into 12 parts, give 5 to the cornice, 6 to the frize, and one to the necking; if cornices are used without frize or necking, give them three eighths of an inch to a foot, or half an inch to a foot, suppose 14 feet as before, at three eighths of an inch to a foot, the cornice will be $5\frac{1}{4}$ inches; at half an inch to the foot, the cornice will be 7 inches; whatever the given height is, that must be divided into the same number of parts as the cornice you make use of, and dispose them to the parts in height and projection, as figured on the cornices.

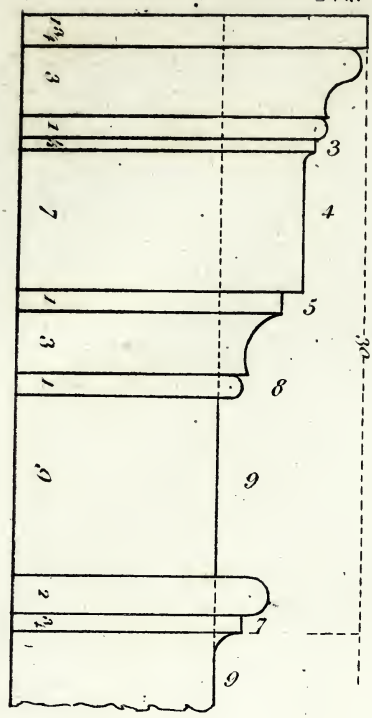
This direction will be sufficient for the proportion of cornices in any case required.

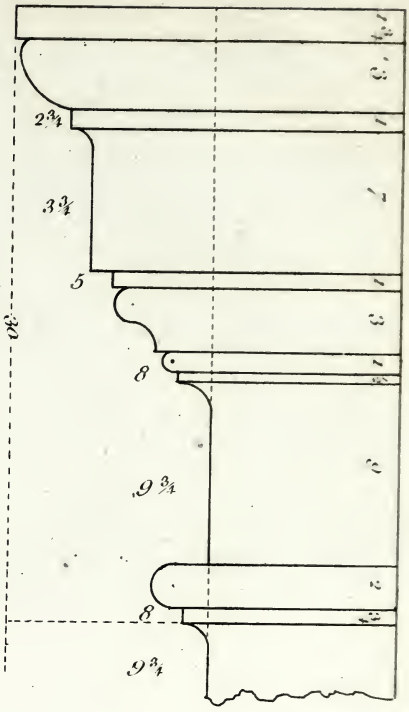


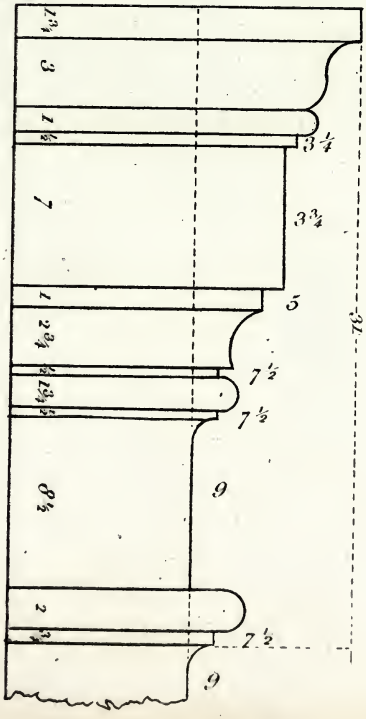

Impost mouldings for the Proportion see fixe Plate 48.

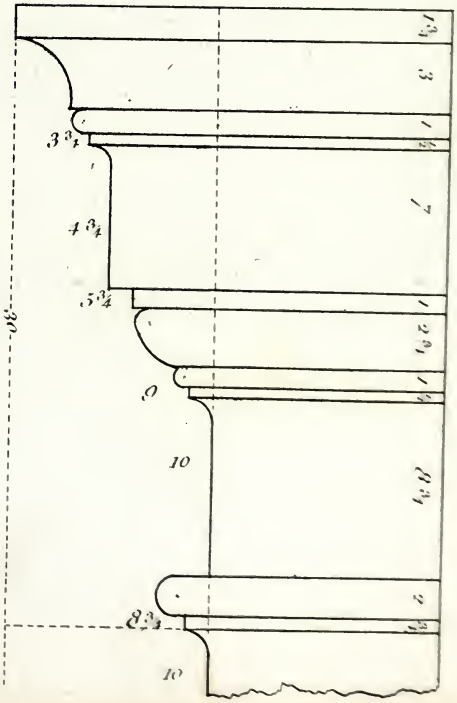
*Plate 36.*

*Four designs for Impost*



*Two designs for Cornice for any place required. Plate 57.*

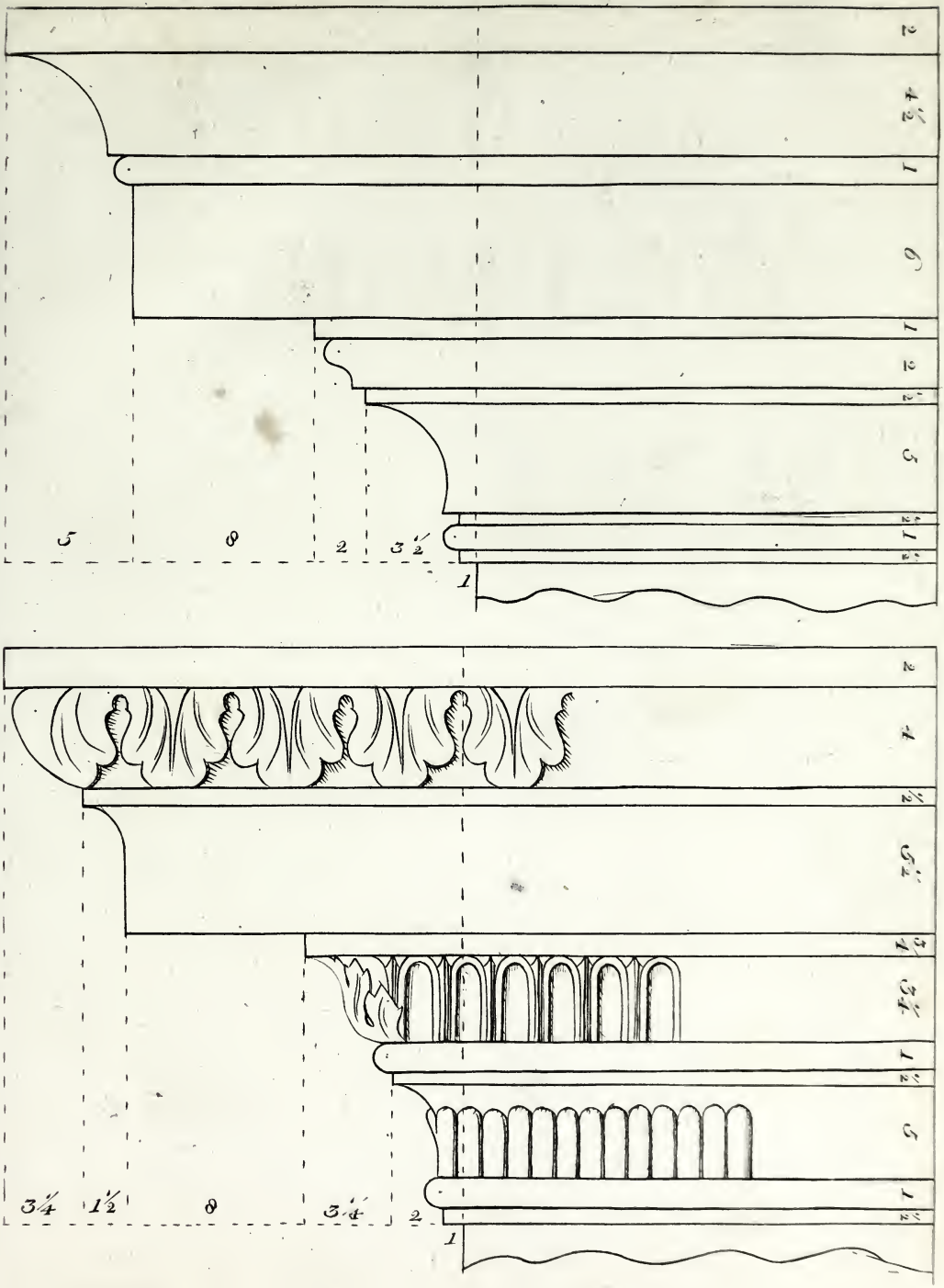
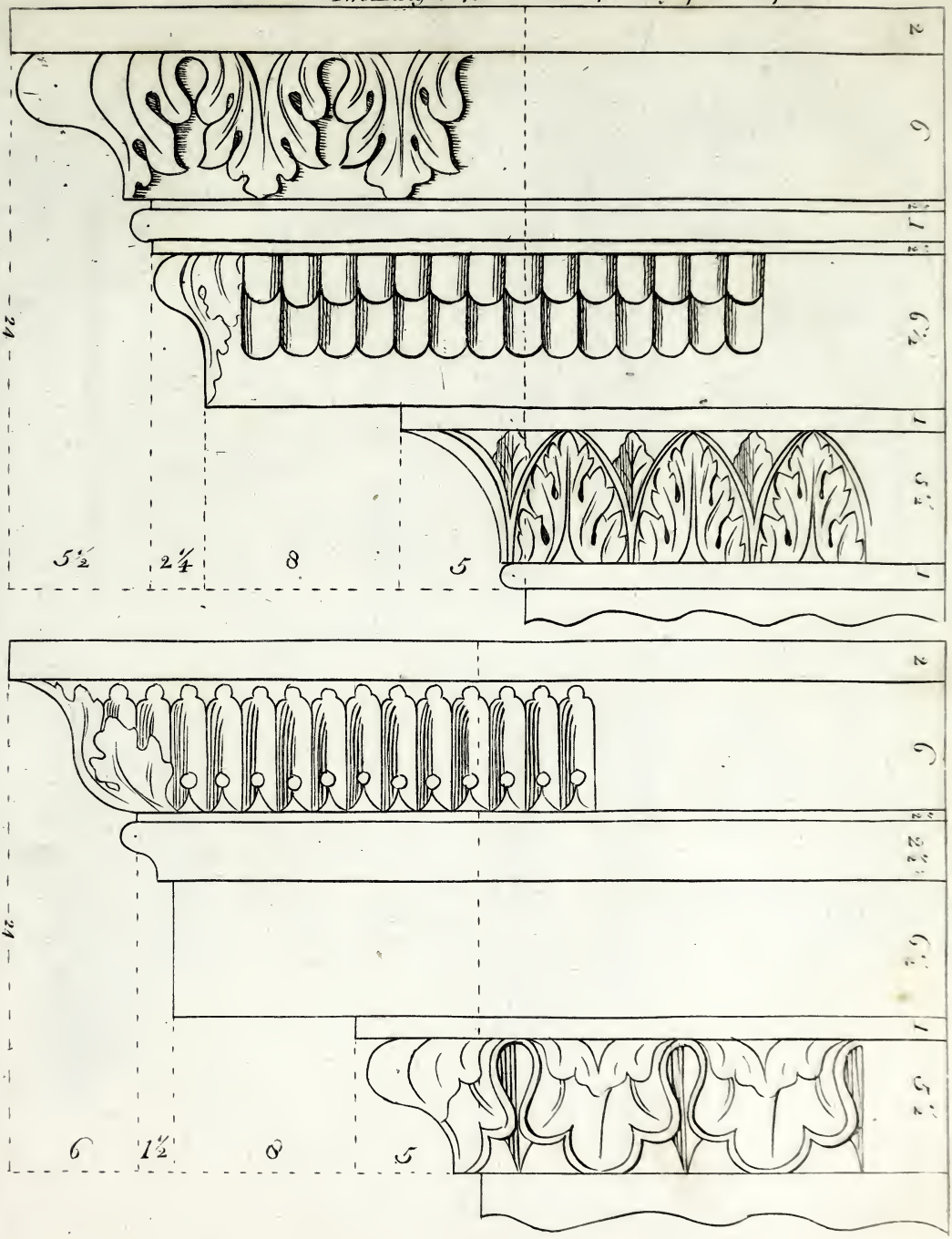


Plate 58.

Two Designs for Cornices for any place required



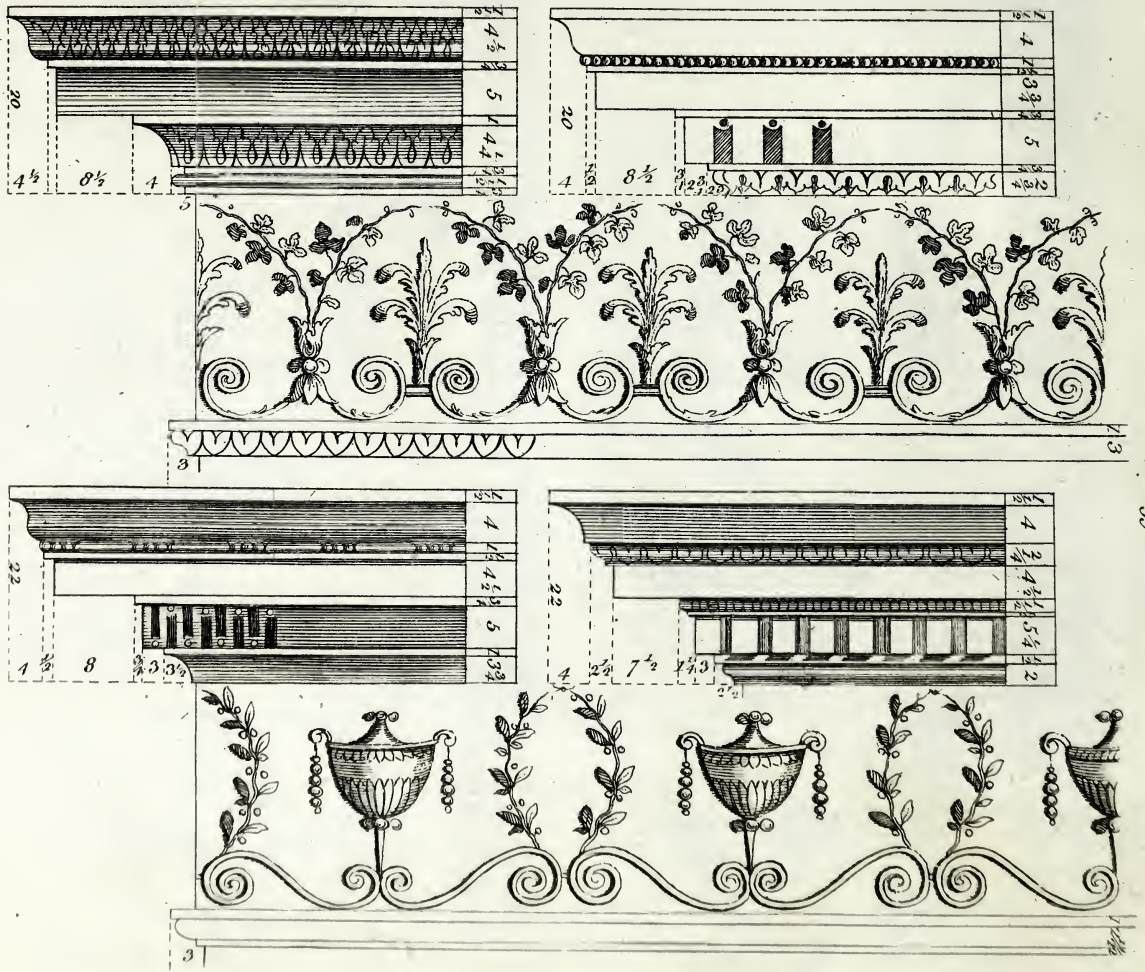


Plate 59.

*Plate 60.*

*For the Measures see face Plate 54.*

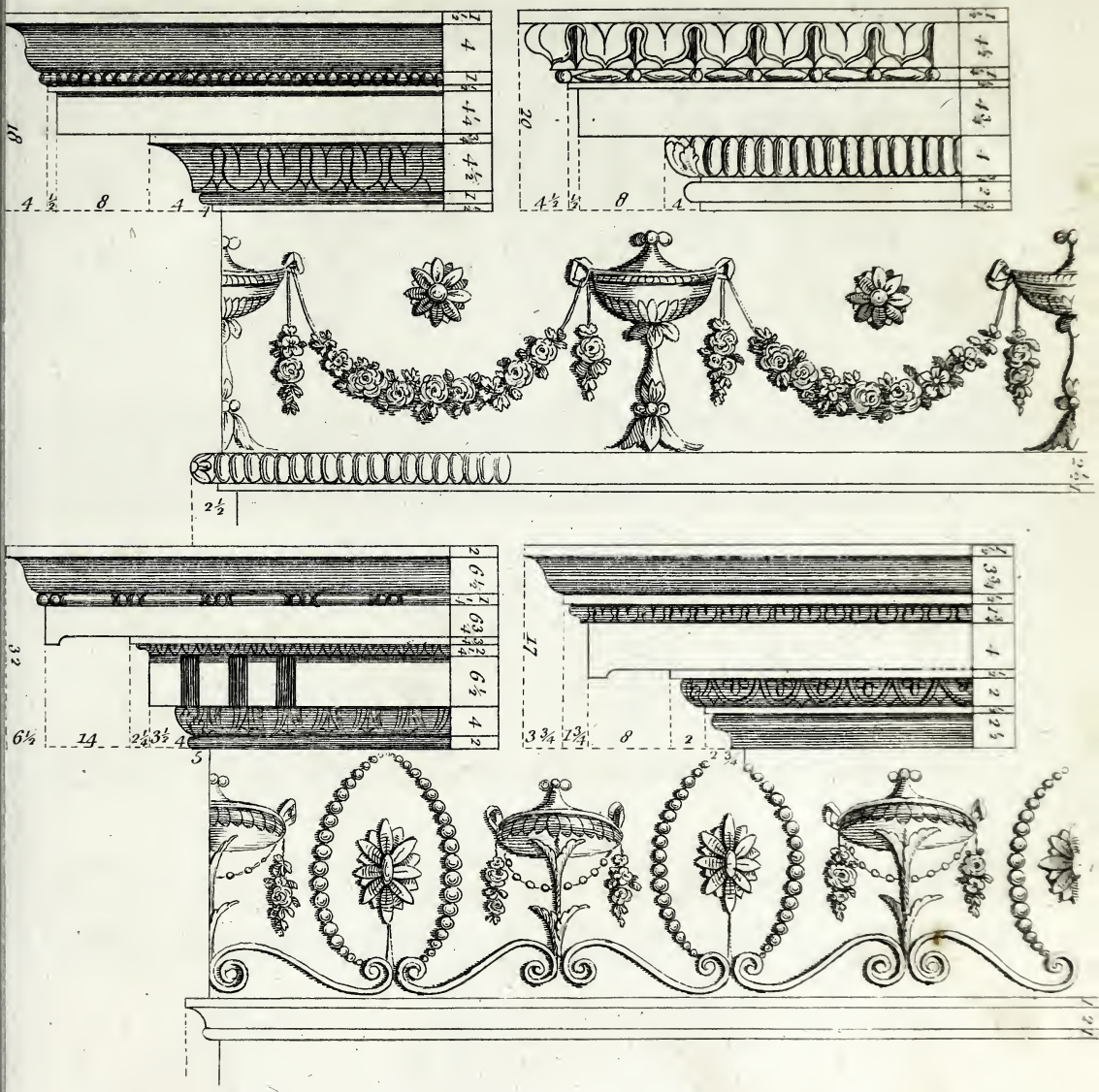


*Plate 61.*

*Three Designs, for Friezes and Cornices.*

Ryckell sculp.t

*Publishd Aug.t 2 2 1780 by W.Pain.*

# Four Designs for Friezes.

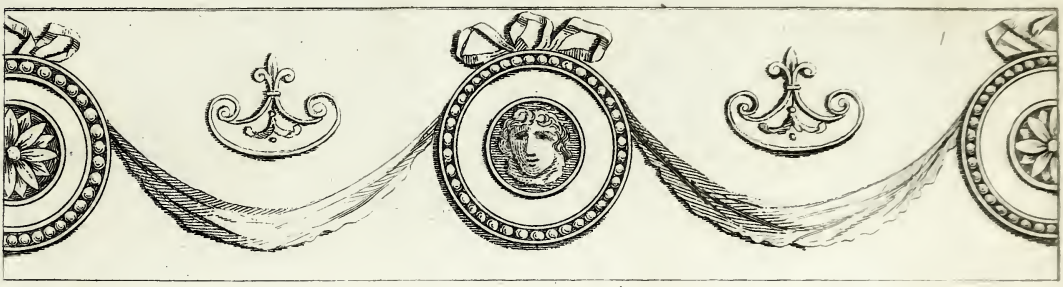
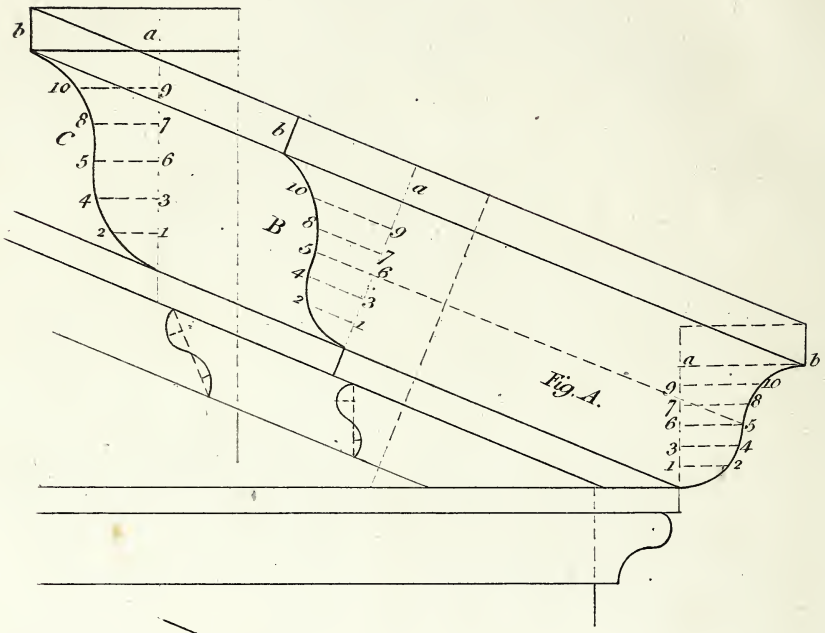
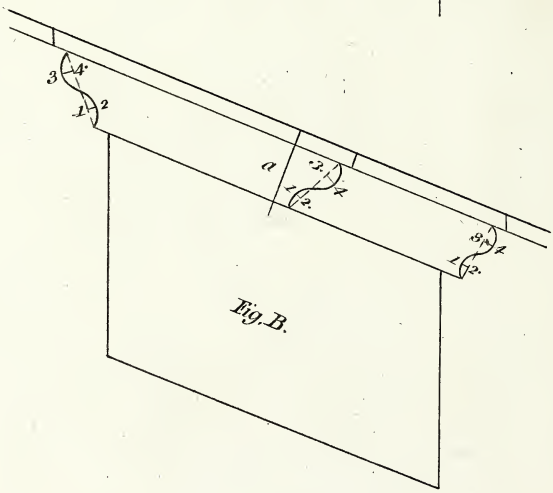


*Plate 63.*


b
a
10
9
8
7
C
5
6
4
3
2
1
b
a
10
9
B
8
7
5
6
4
3
2
1
Fig. A.
a
b
9
10
7
8
6
5
3
4
1
2

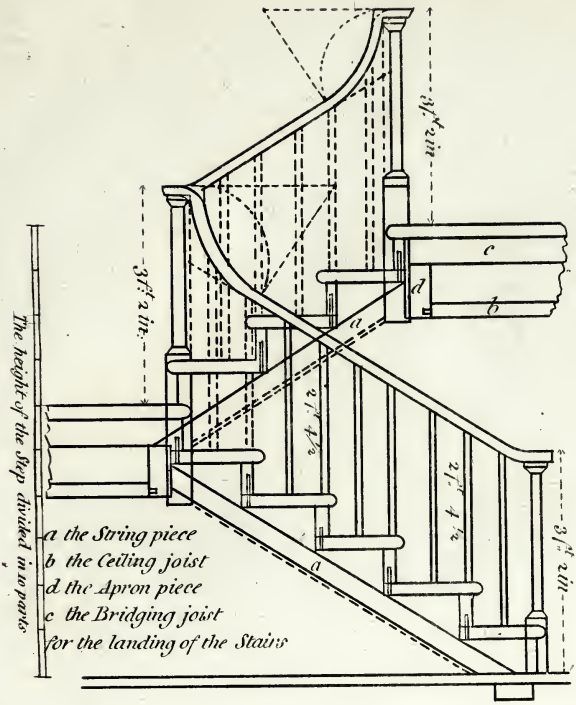

3
4
1
2
a
Fig. B.

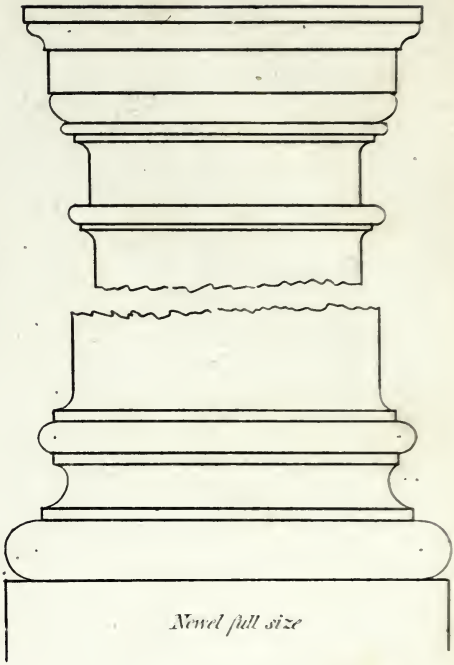
*To face Plate* LXIII.

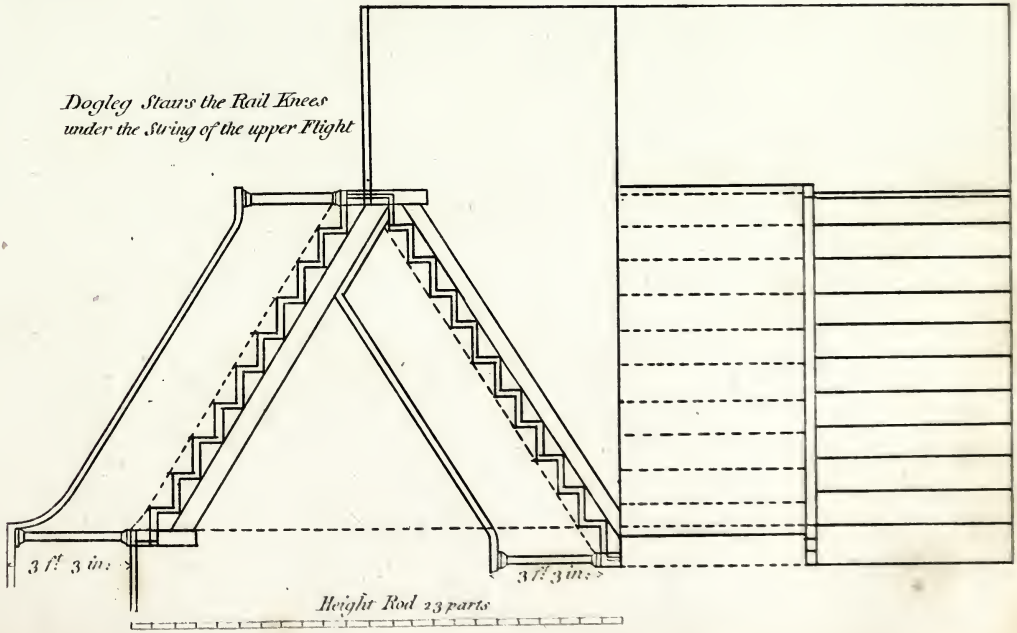
Of raking cornice for pediments: fig. *A* is the given cornice which the raking cornice is traced from; divide the level or given cornice into 6 parts, and transfer them to the raking cornice *B*, as 1.2.3.4.5.6.7.8.9.10, *a b*; the projections to be all alike; then transfer the parts from the level cornice *A*. to the return cornice *C*, as the figures direct.

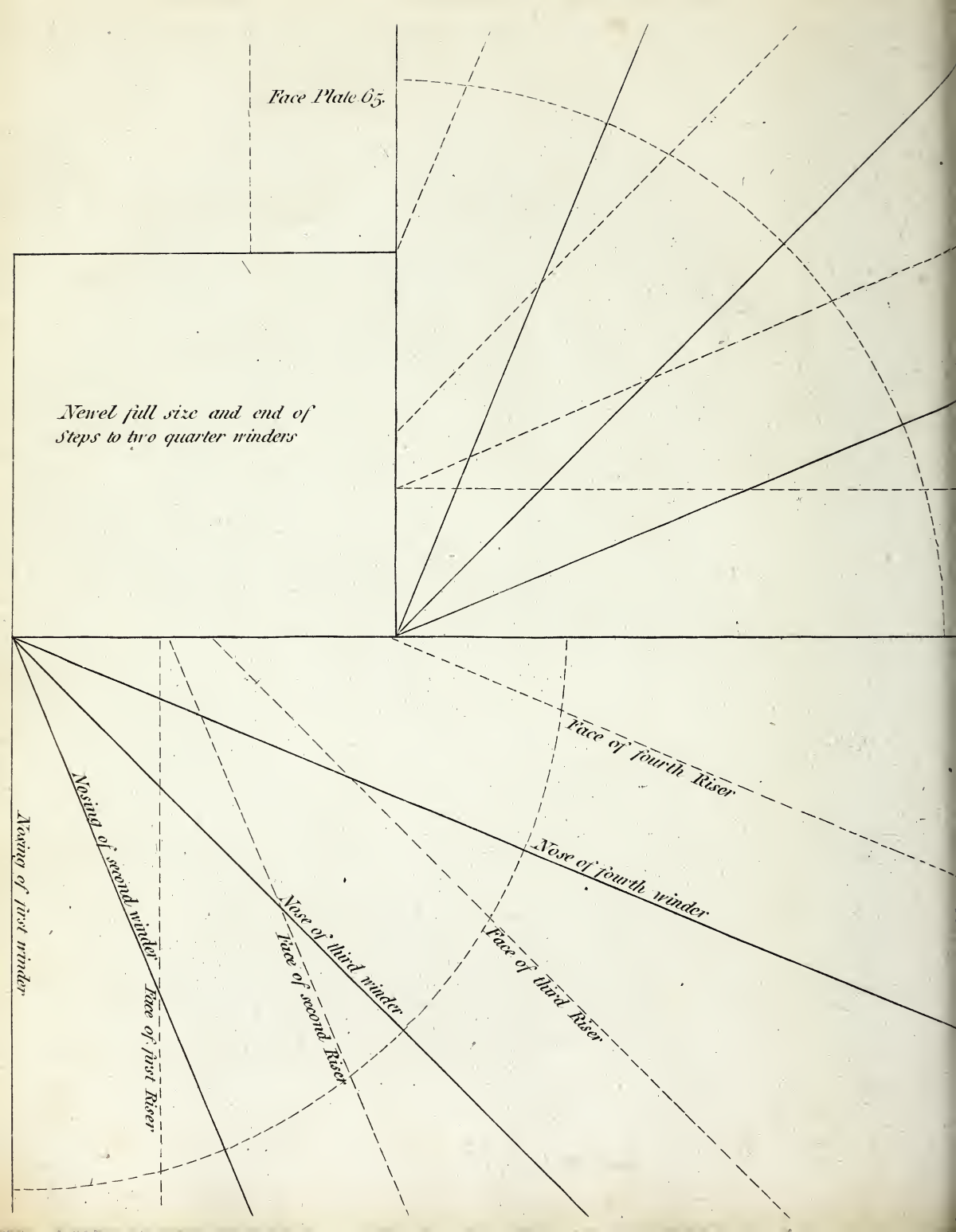
Fig. *B* is a raking modillion in a pediment that contains three different moulds; that of *a* is the given mould, which the other two are traced from, as 1.2.3.4.

W. Stratford, Printer, Crown-Court, Temple-Bar.

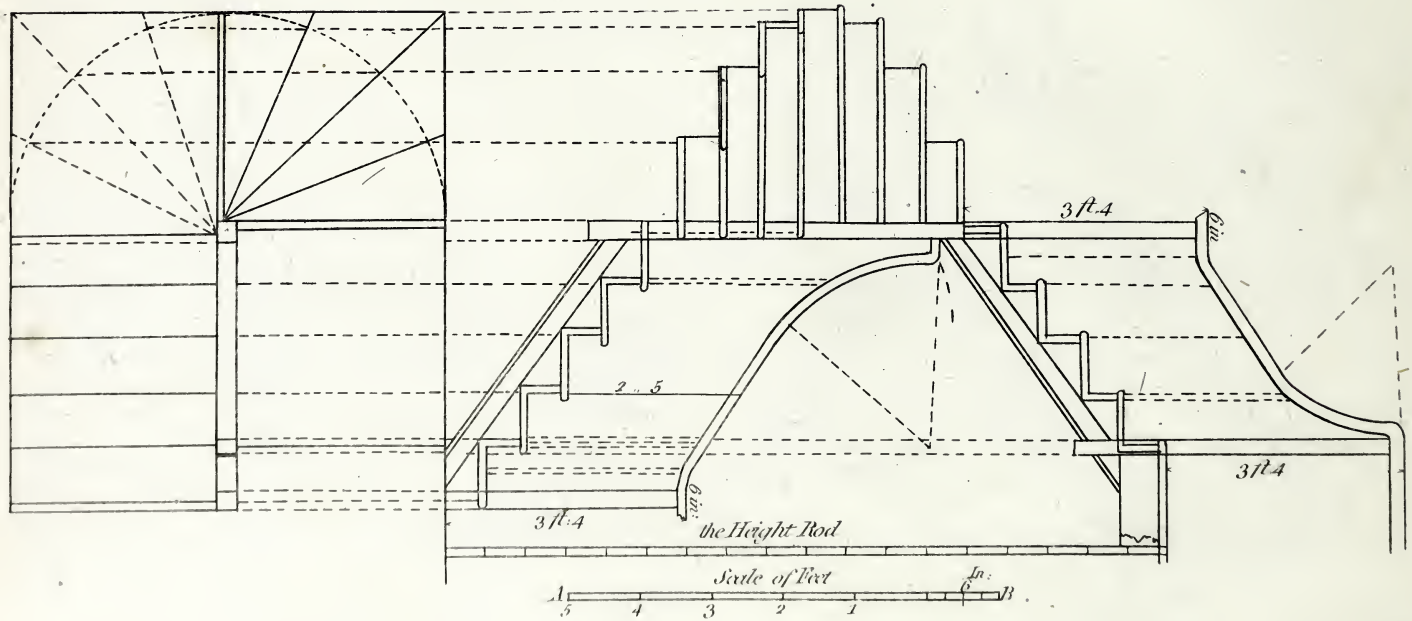

3ft 2 in.
3ft 2 in.
c
d
b
a
2ft 4½
2ft 4½
3ft 2in
The height of the Step divided in to parts
a the String piece
b the Ceiling joist
d the Apron piece
c the Bridging joist
for the landing of the Stairs


Newel full size


Dogleg Stairs the Rail Knees
under the String of the upper Flight
3ft 3 ins
3ft 3ins
Height Rod 23 parts


Face Plate 65.
Newel full size and end of Steps to two quarter winders
Face of fourth Riser
Nose of fourth winder
Face of third Riser
Nose of third winder
Face of second Riser
Nosing of second winder
Face of first Riser
Nosing of first winder

*Common flight of Stairs, Close String and two quarter winders drawn by a Scale three Eights of an Inch to a Foot, the Step, 9 In., one Inch nosing.*



*An Open Newel Stair Case drawn to Scale 3/8 of an Inch to a Foot, Shewing the method for drawing the Ramp Knees and Likewise fixing the Carriages for the Steps, and the hand Rail full size for Practice to Draw the Ramp, Continue the under side of the Rail to the Newel at a, then sett the Compasses at a, and draw the arch b, d, then Square from the Rail to, c, is the Center to Draw the Ramp.*

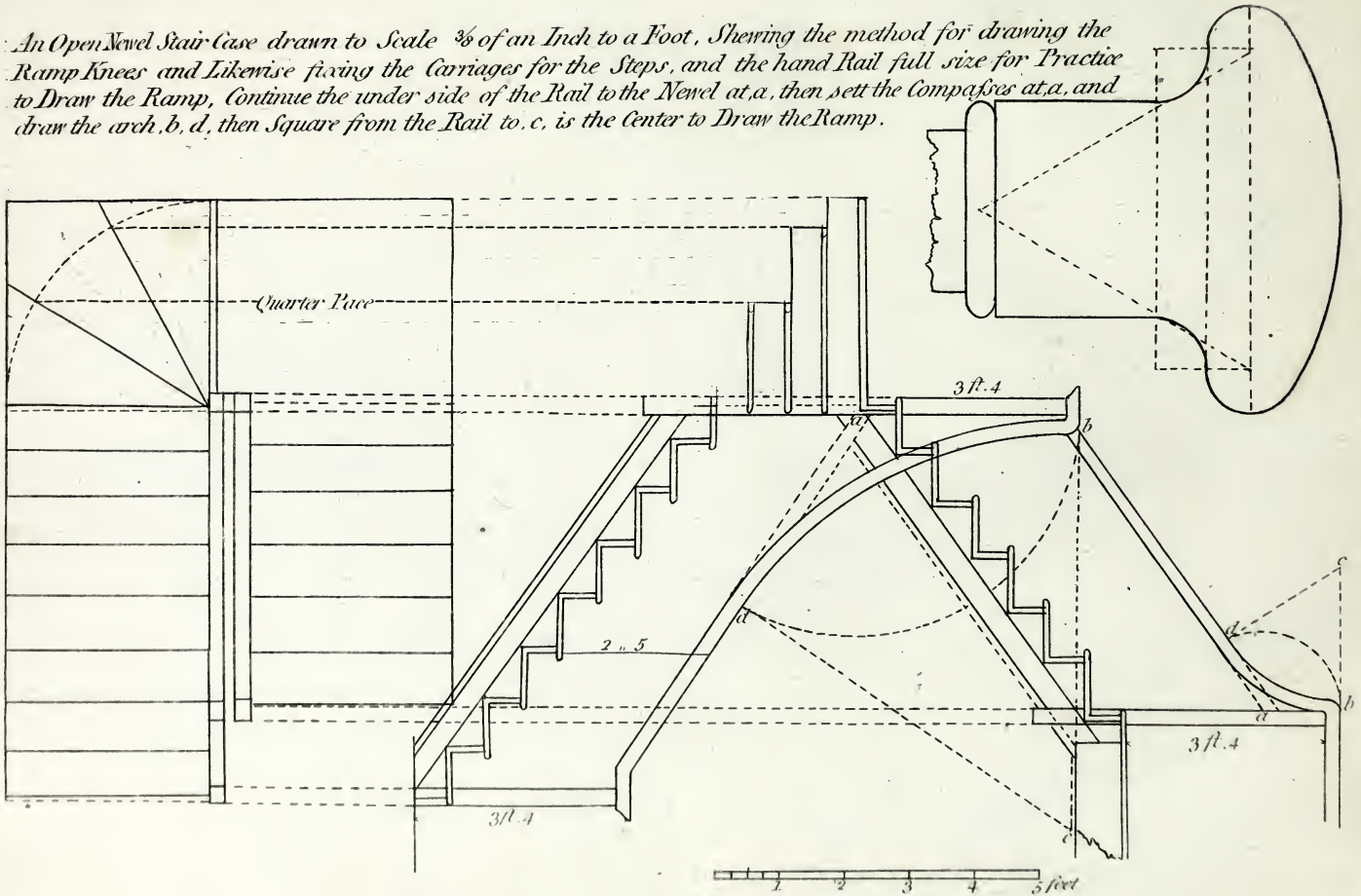
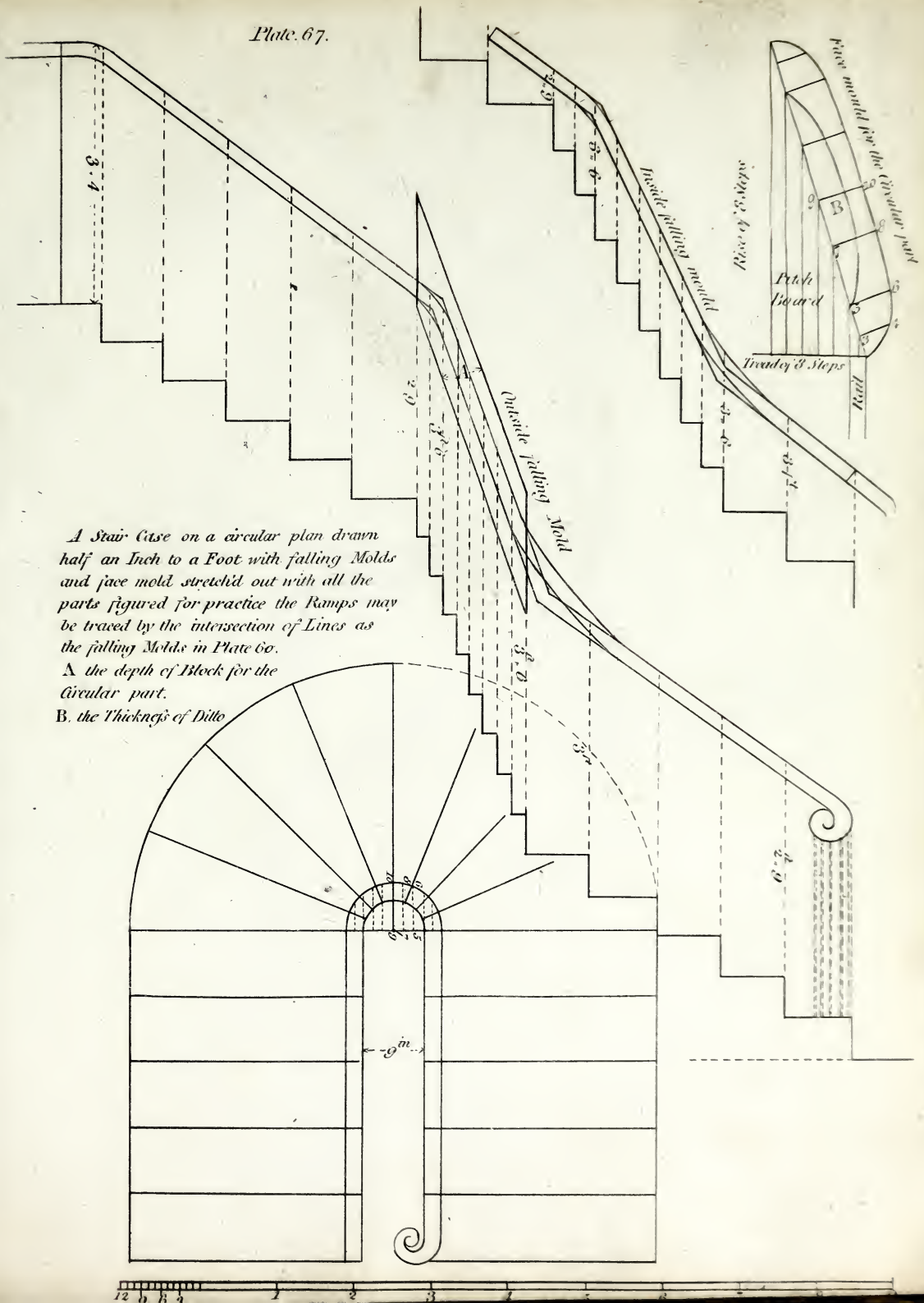


Plate. 67.


Face mould for the Circular part
Rise of 8 Steps
Inside falling mould
Tread
Pitch board
Tread of 8 Steps
Rail
Outside falling Mold
A Stair Case on a circular plan drawn half an Inch to a Foot with falling Molds and face mold stretch'd out with all the parts figured for practice the Ramps may be traced by the intersection of Lines as the falling Molds in Plate 60.
A. the depth of Block for the Circular part.
B. the Thickness of Ditto

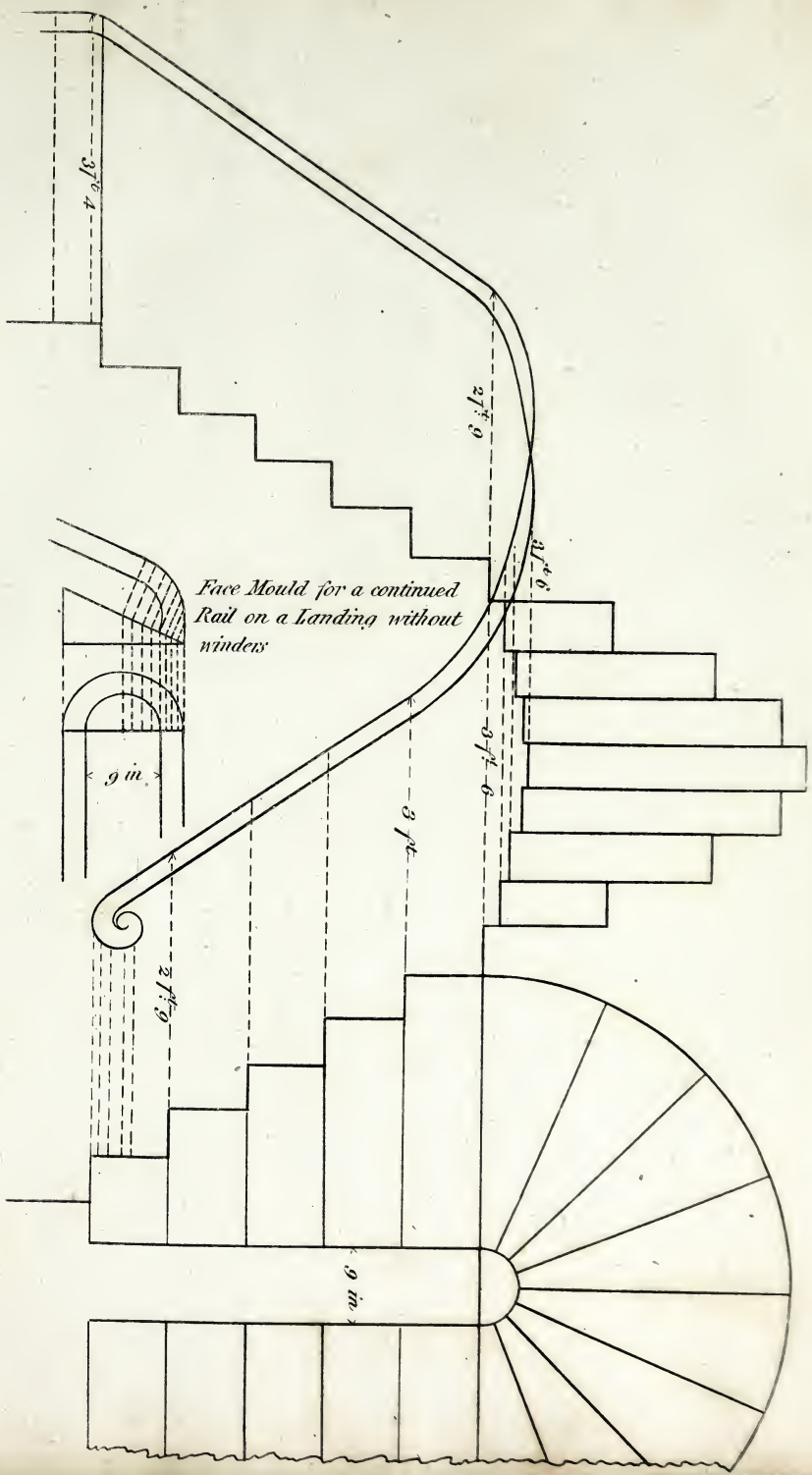
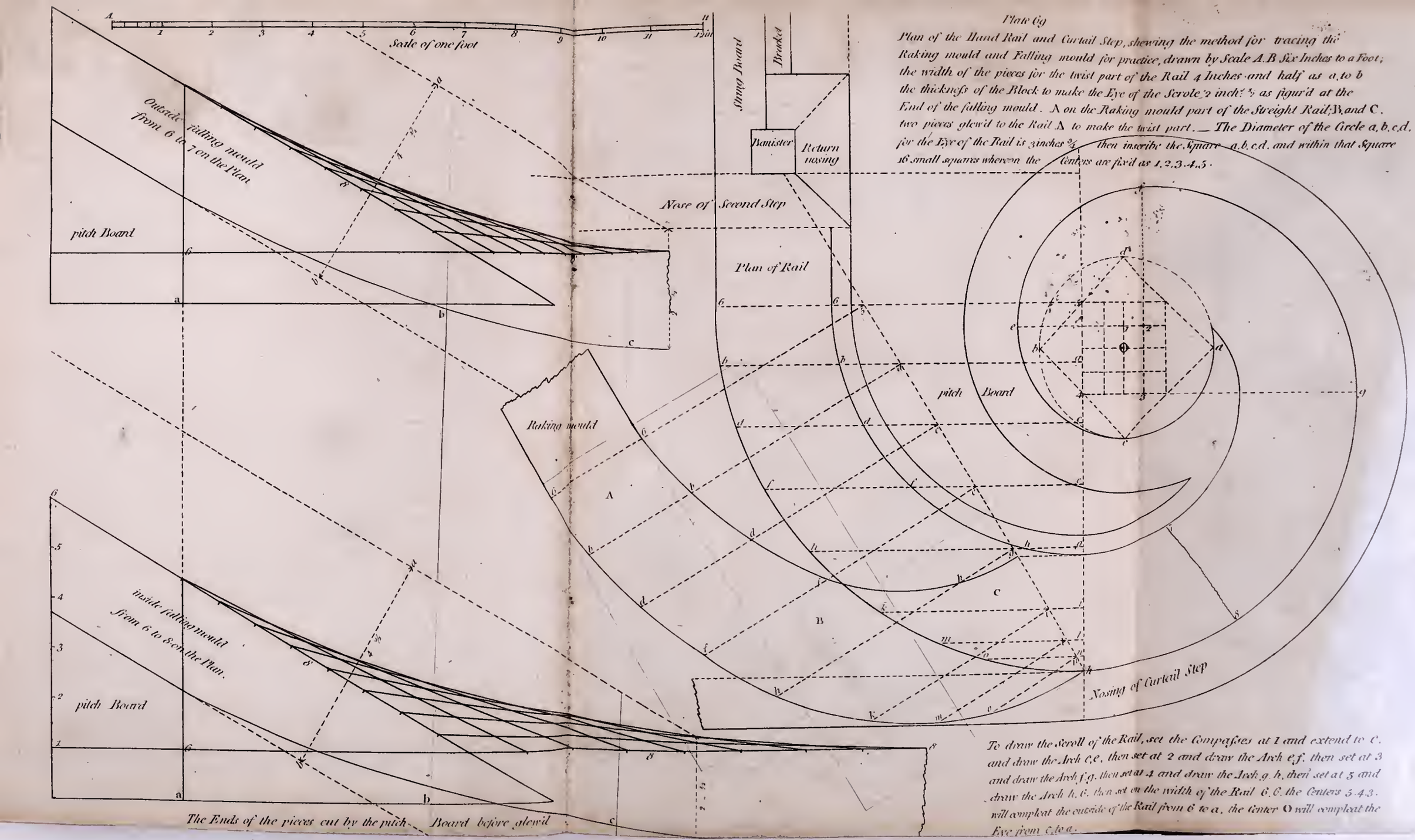

3f 4
2f 9
2f 6
Face Mould for a continued
Rail on a Landing without
winders
9 in
3f 6
2f 2
9 in

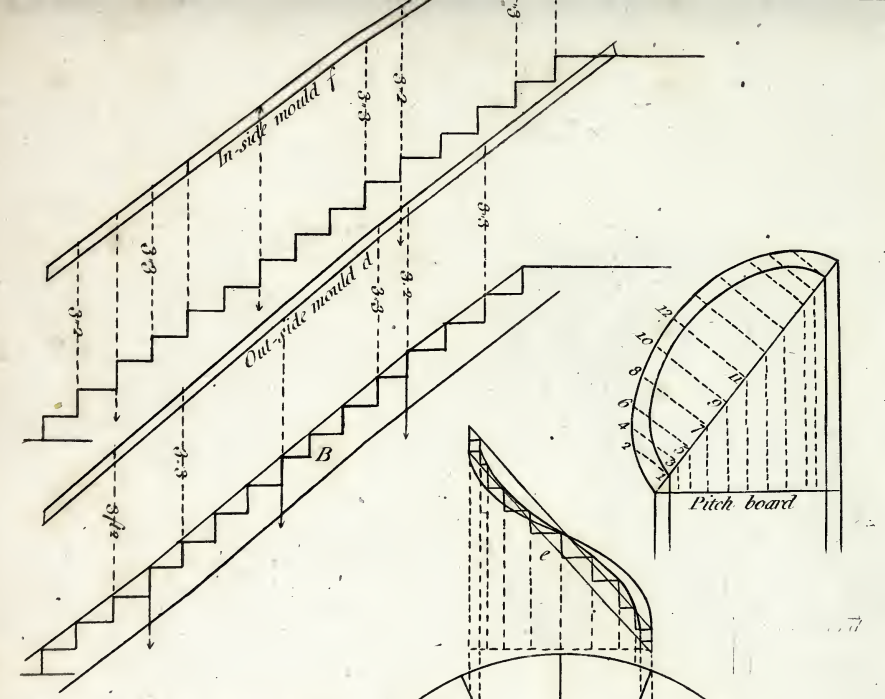
Plate 69

*Plan of the Hand Rail and Curtail Step, shewing the method for tracing the Raking mould and Falling mould for practice, drawn by Scale A.B Six Inches to a Foot; the width of the pieces for the twist part of the Rail 4 Inches and half as a, to b the thickness of the Block to make the Eye of the Scrole 2 inch ¾ as figur'd at the End of the falling mould. A on the Raking mould part of the Streight Rail; B, and C. two pieces glewid to the Rail A to make the twist part. — The Diameter of the Circle a, b, c, d, for the Eye of the Rail is 3 inches ¾ then inscribe the Square a, b, c, d, and within that Square 16 small squares whereon the Centers are fixd as 1, 2, 3, 4, 5.*



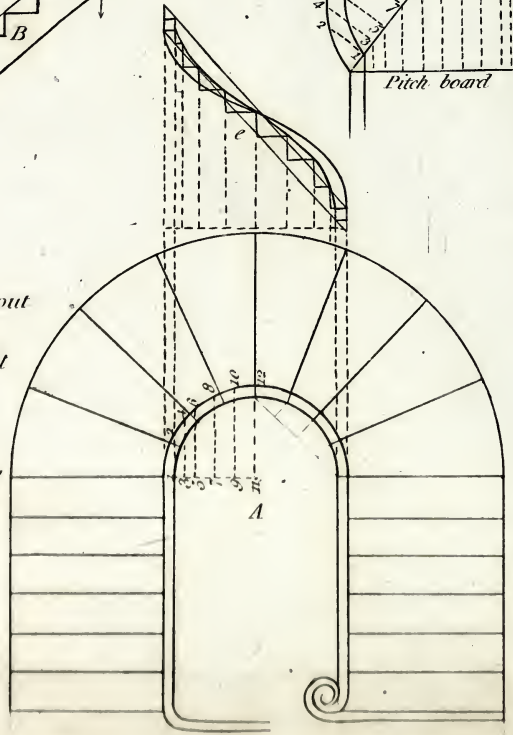

*The Ends of the pieces cut by the pitch Board before glewid*

*To draw the Scroll of the Rail, set the Compasses at 1 and extend to C. and draw the Arch c, e, then set at 2 and draw the Arch e, f, then set at 3 and draw the Arch f, g, then set at 4 and draw the Arch g, h, then set at 5 and draw the Arch h, 6, then set on the width of the Rail 6, 6, the Centers 5, 4, 3. will compleat the outside of the Rail from 6 to a, the Center O will compleat the Eye from c, to a.*

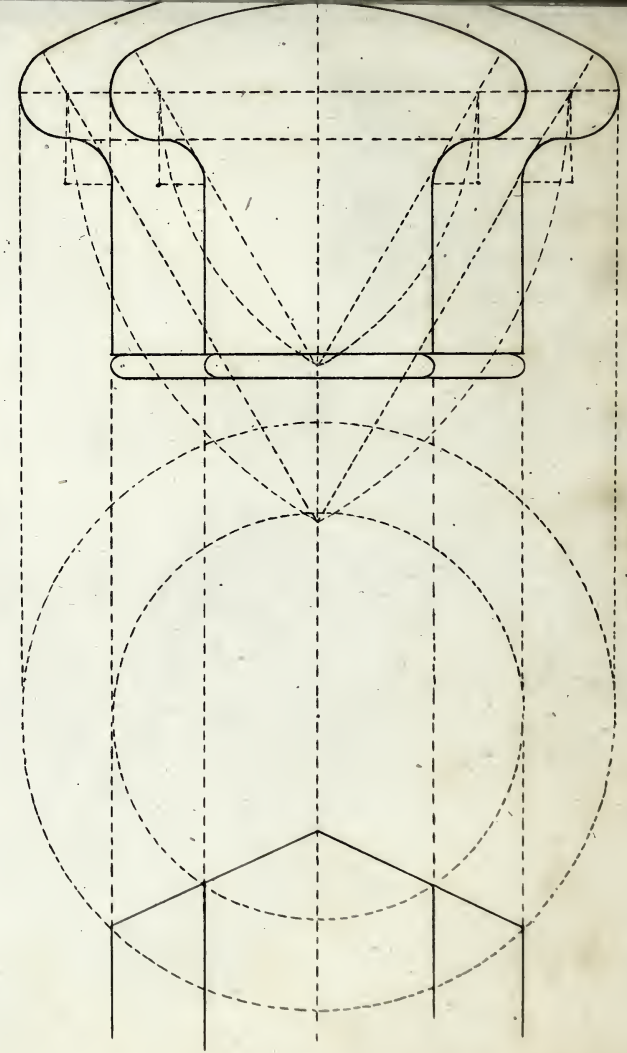






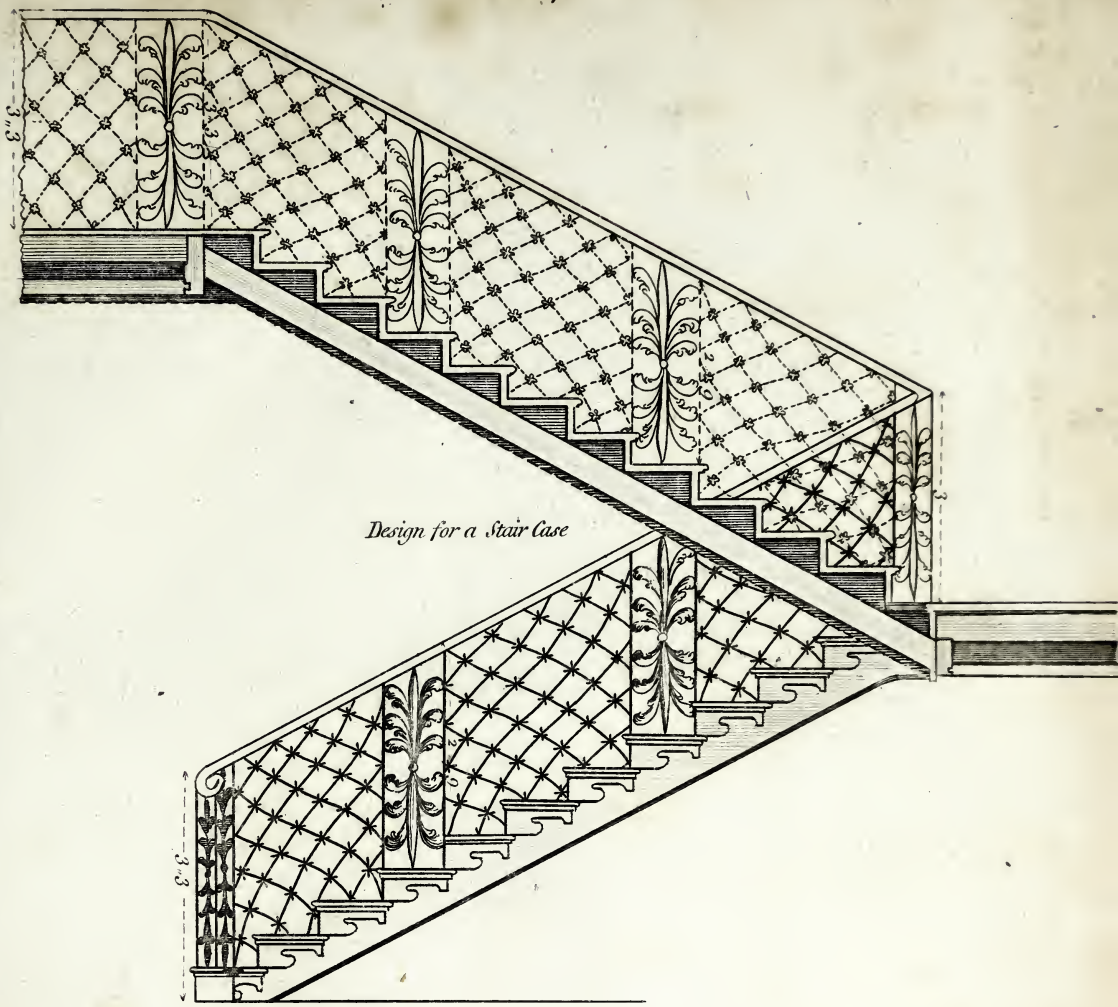



*B the String board stretch'd out for the Circular part.*
*d f. the hand rail stretchid out*
*e. the Section of the circular Rail shewing the thickness of stuff, c the face mould traced from the plan A for a solid rail If the Rail is bent in thickness.*
*d and f the mould drawn a quarter of an Inch to a Foot.*



*The hand Rail miter'd into a Circular Cap full size for practice; which is plain to inspection*

*Plate 70.*



*Design for a Stair Case*

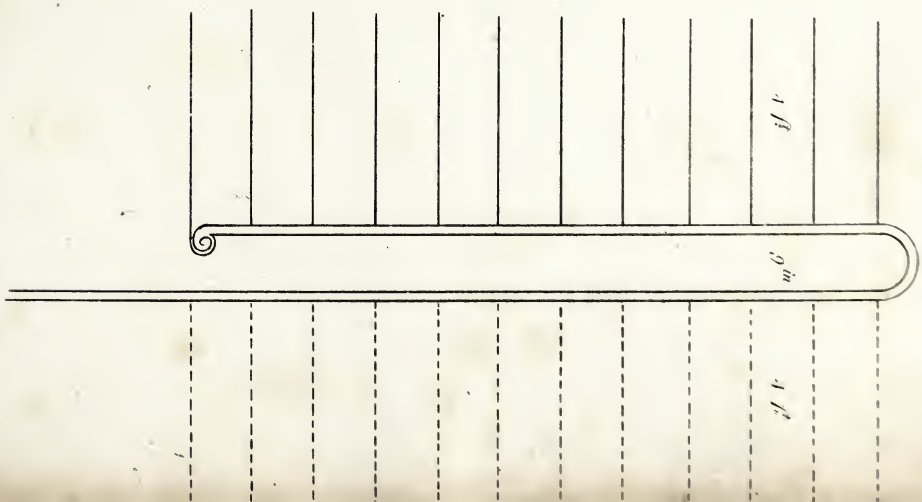
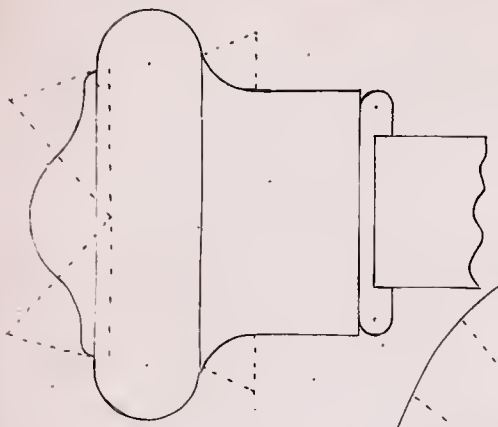
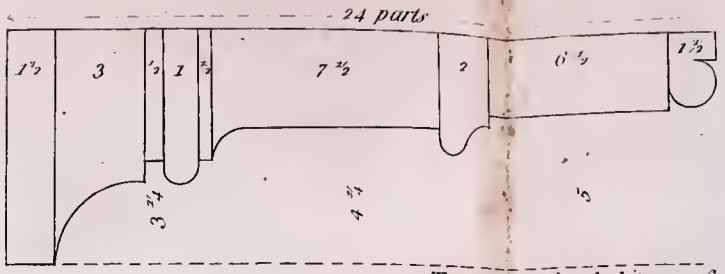
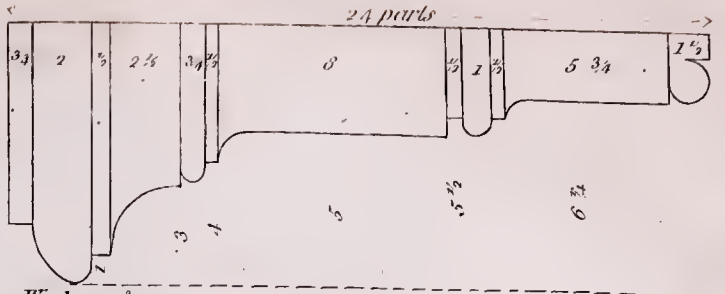


*Plate 72.*

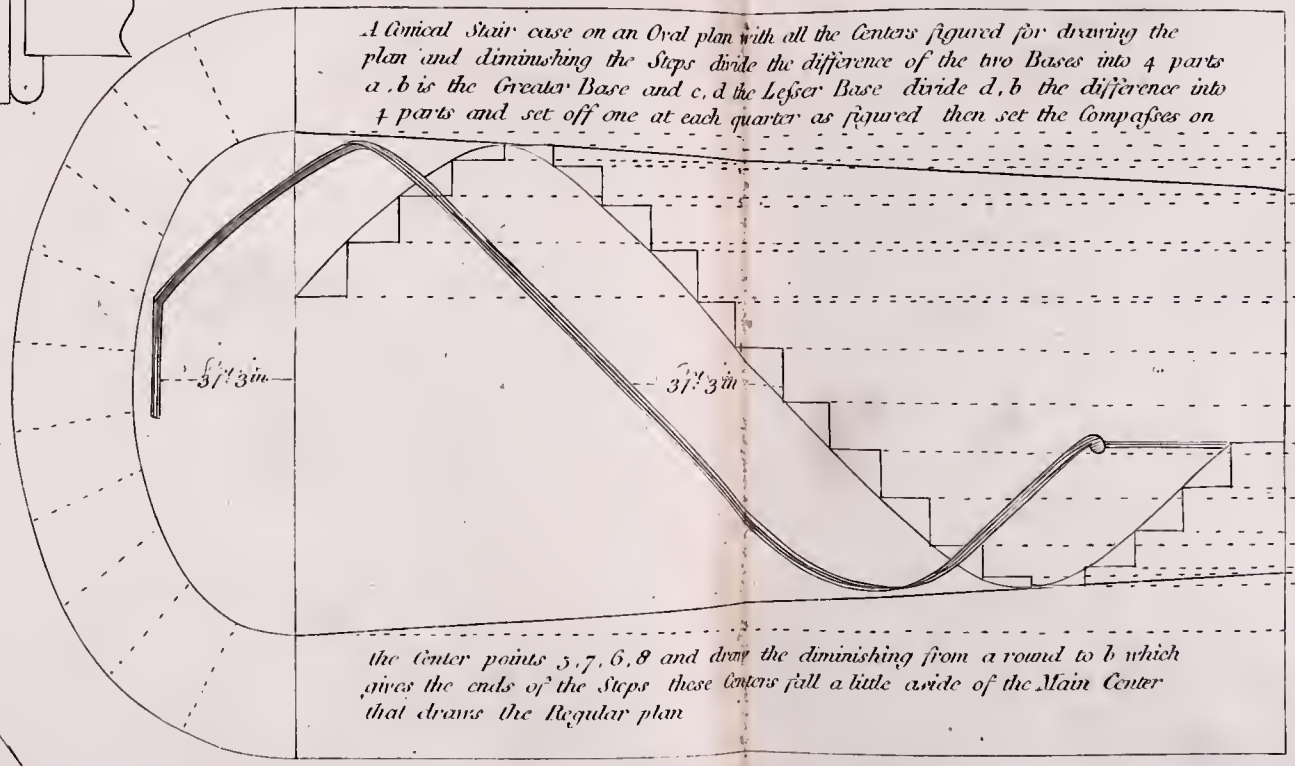




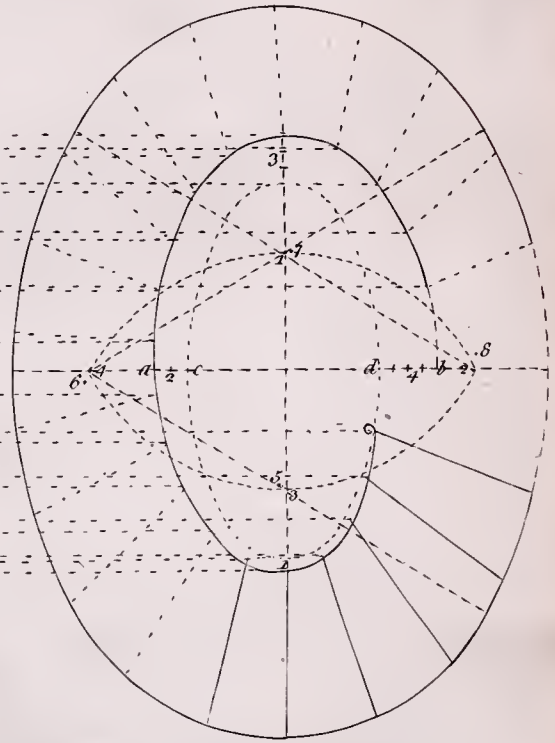



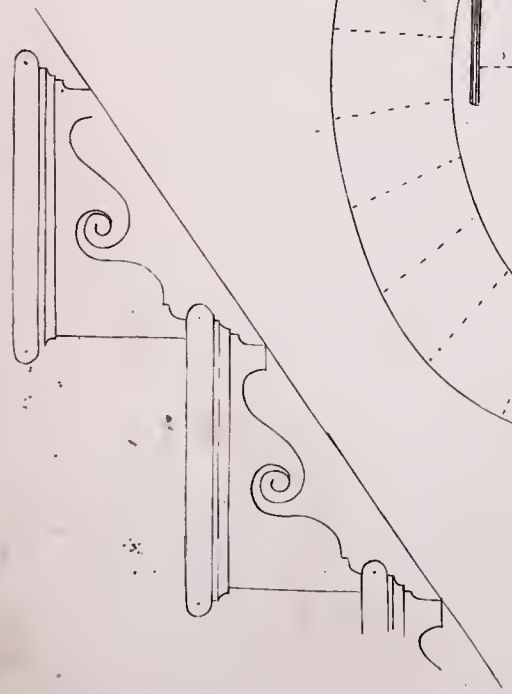

*Two designs for Architraves for Doors Windows &c*

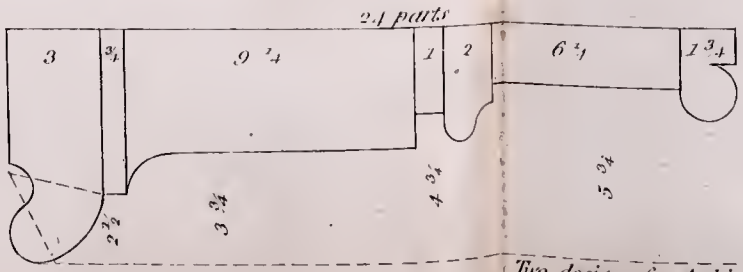
*A Conical Stair case on an Oval plan with all the Centers figured for drawing the plan and diminishing the Steps divide the difference of the two Bases into 4 parts a, b is the Greater Base and c, d the Lefser Base divide d, b the difference into 4 parts and set off one at each quarter as figured then set the Compasses on*

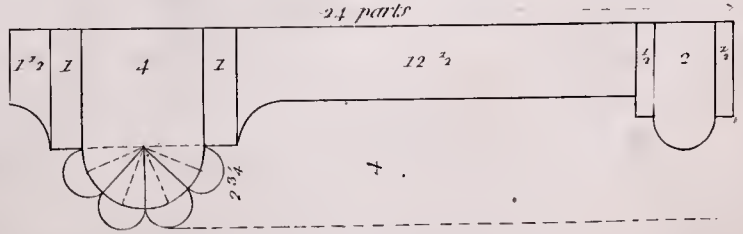



*the Center points 5, 7, 6, 8 and draw the diminishing from a round to b which gives the ends of the Steps these Centers fall a little aside of the Main Center that draws the Regular plan*

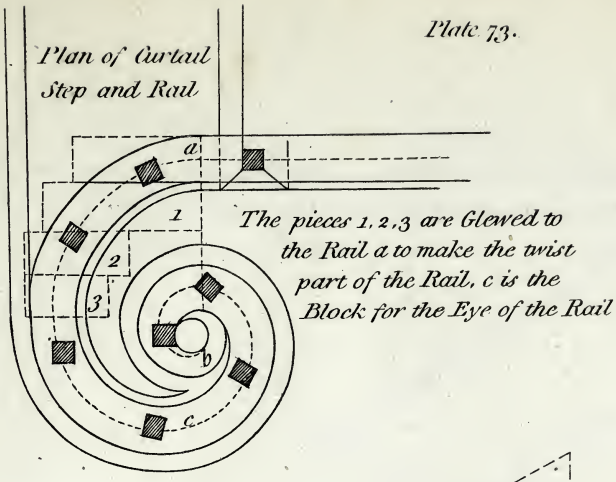





*Two designs for Architraves for Doors Windows &c*


Plan of Curtail
Step and Rail
a
1
2
3
b
c
The pieces 1, 2, 3 are Glewed to
the Rail a to make the twist
part of the Rail, c is the
Block for the Eye of the Rail

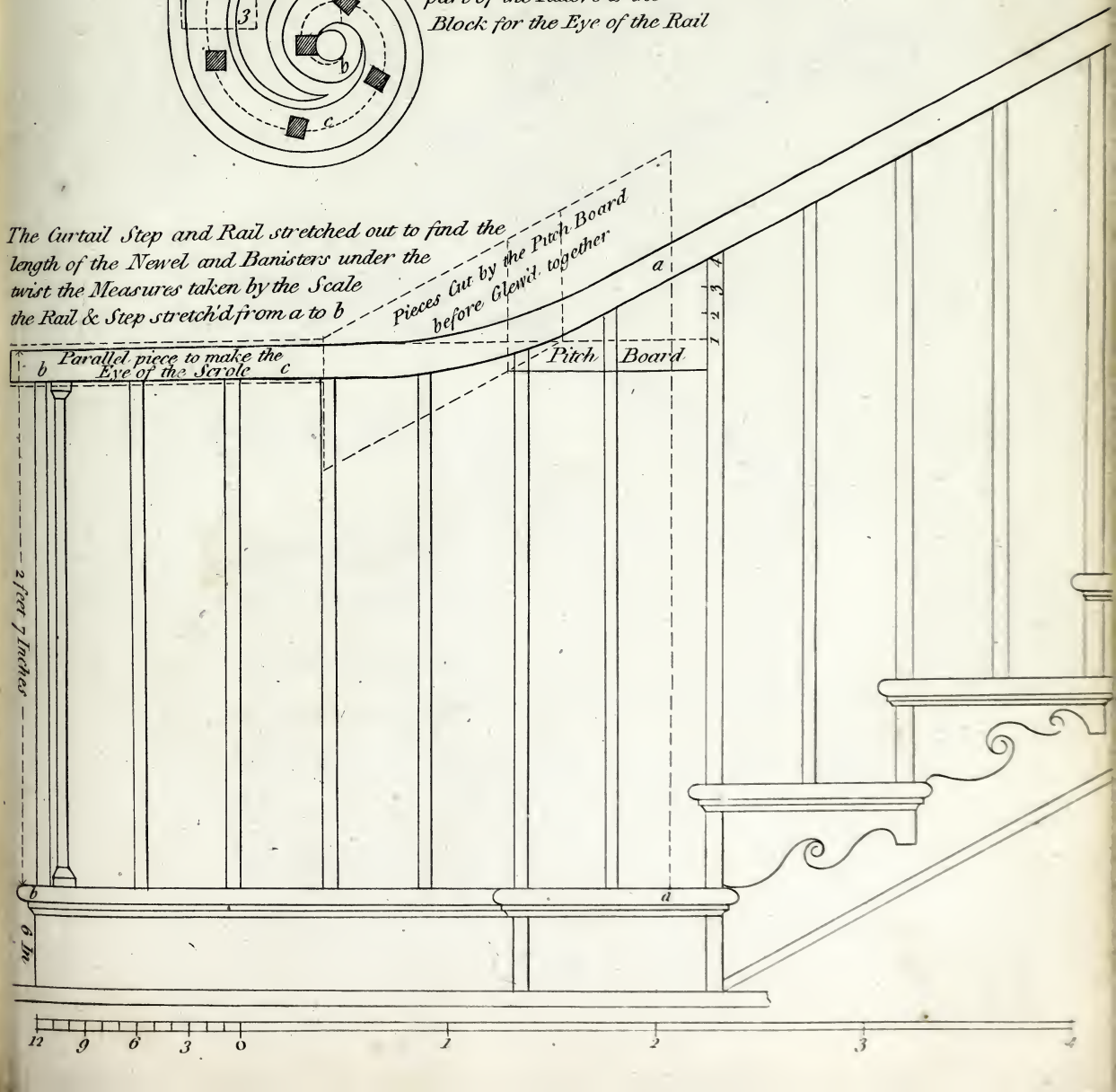
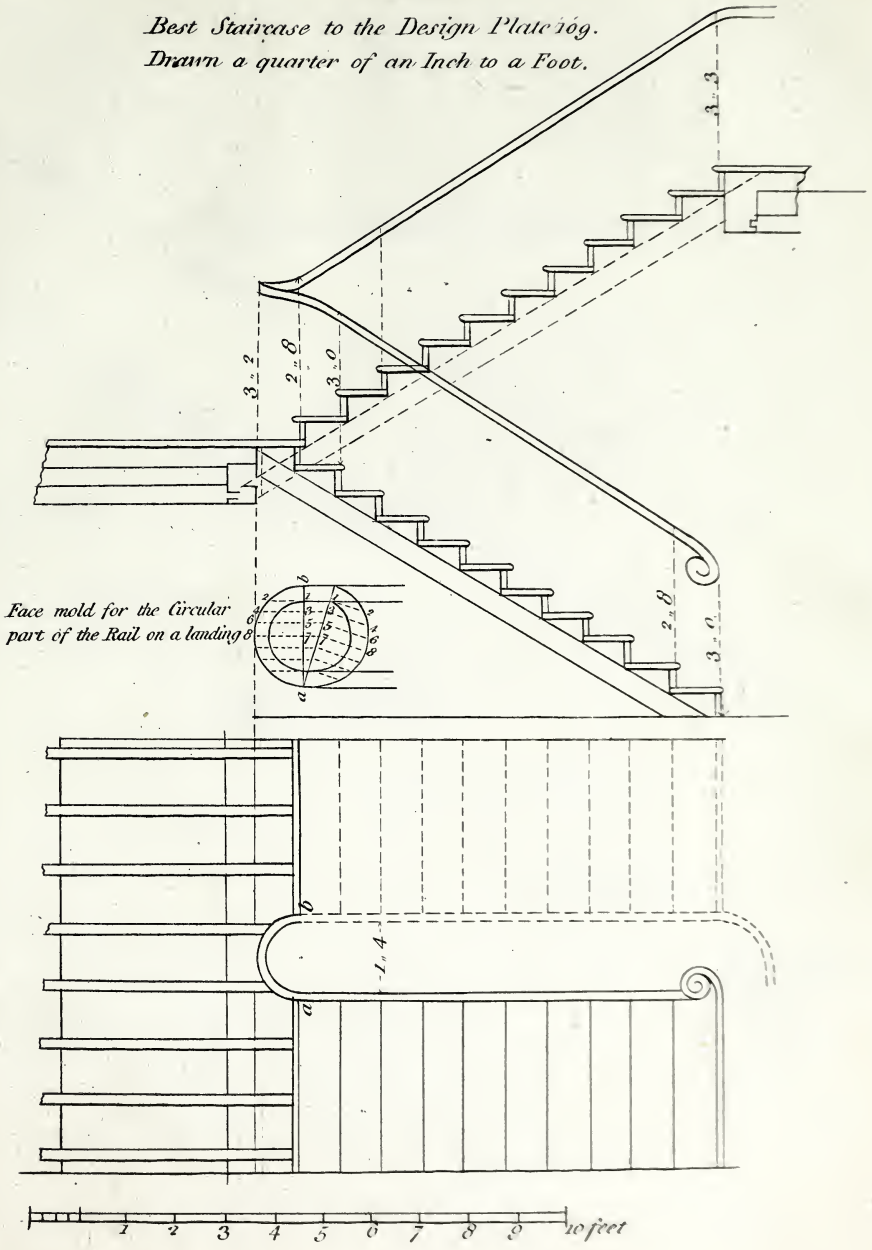

The Curtail Step and Rail stretched out to find the
length of the Newel and Banisters under the
twist the Measures taken by the Scale
the Rail & Step stretch'd from a to b
Pieces Cut by the Pitch Board
before Glew'd together
a
1 2 3
Parallel piece to make the
Eye of the Scrole
b
c
Pitch Board
2 feet 7 Inches
6 In.
b
a
12 9 6 3 0 1 2 3 4

*Plate. 74.*

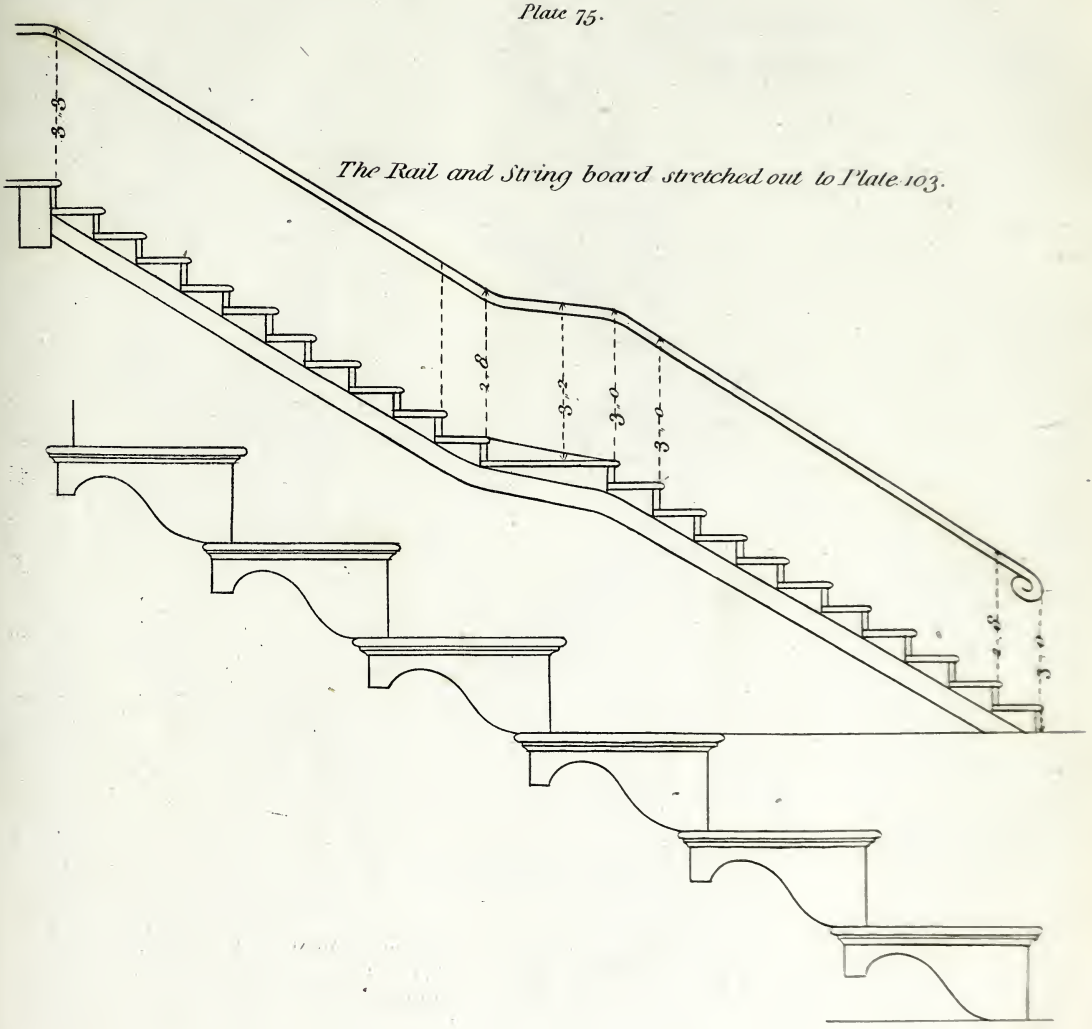
***Best Staircase to the Design Plate 169.***

***Drawn a quarter of an Inch to a Foot.***




*Face mold for the Circular part of the Rail on a landing*

The Rail and String board stretched out to Plate 103.

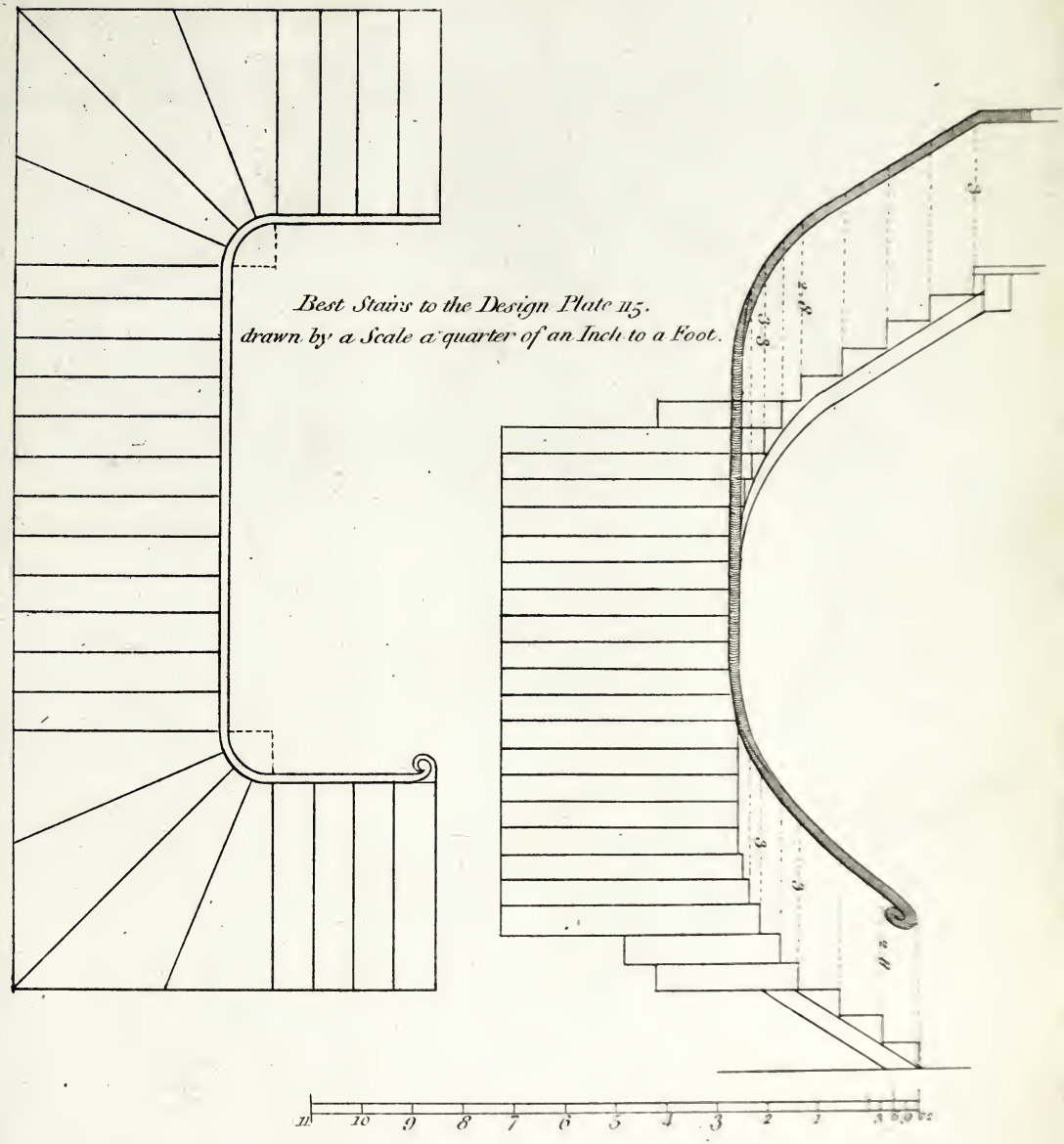


Best Stair Case to the Design Plate 100.

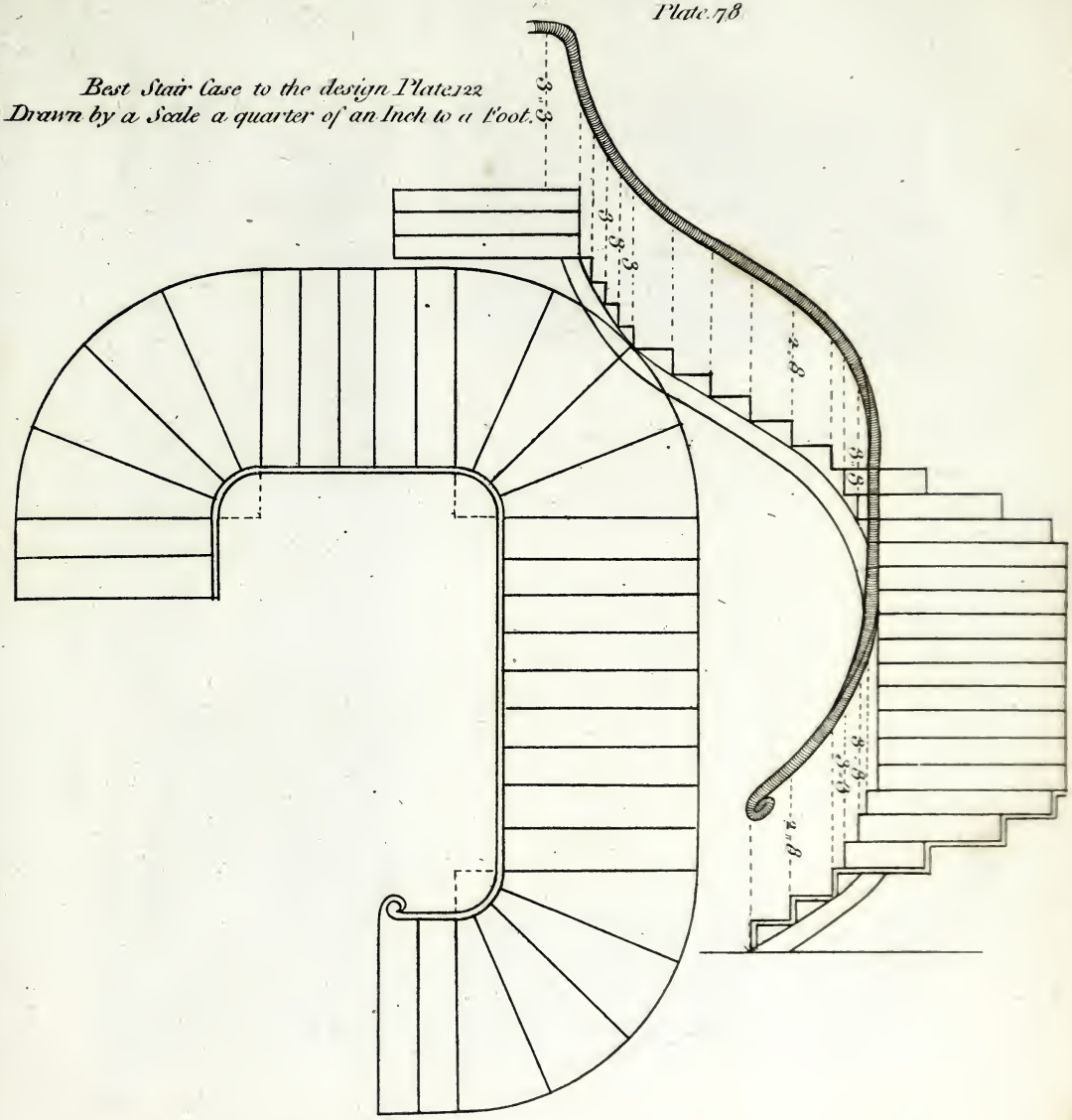
Drawn by a Scale a quarter of an Inch to a Foot.

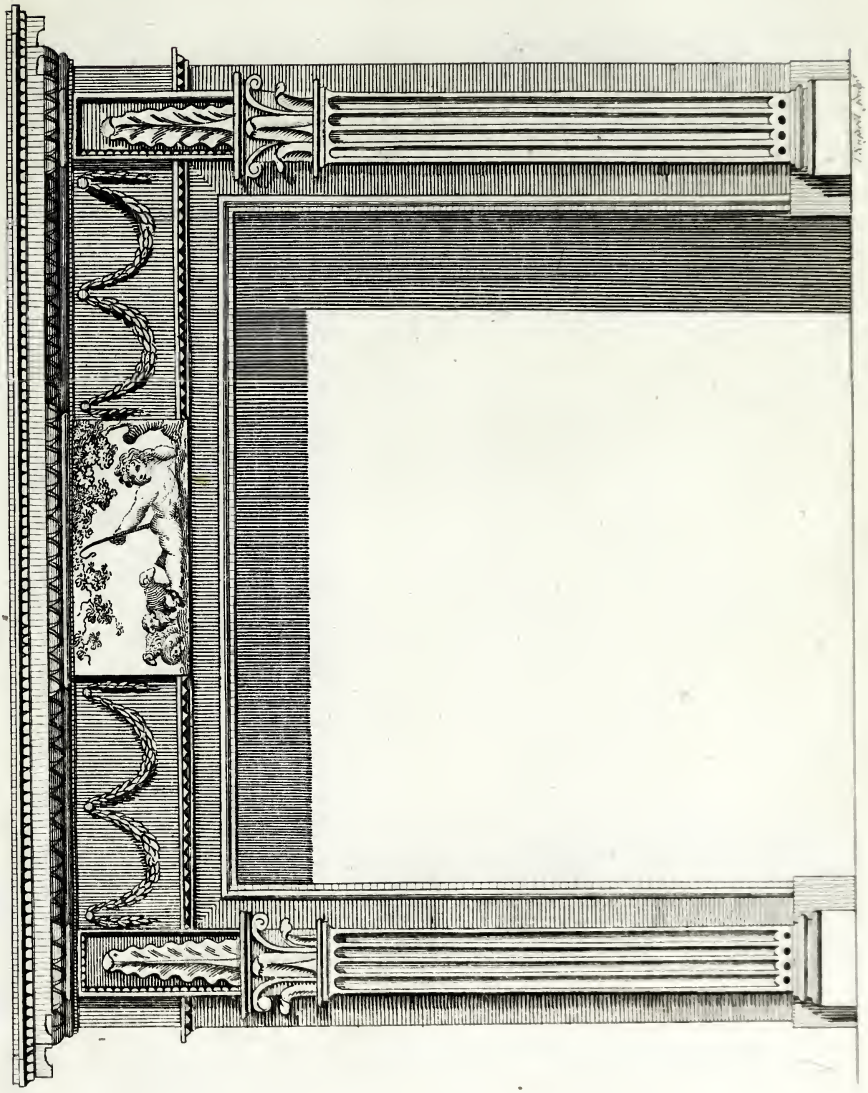
Stair Case to Base-ment Story Plate 100.

*Best Stairs to the Design Plate 115.*
*drawn by a Scale a quarter of an Inch to a Foot.*



*Best Stair Case to the design Plate 122*
*Drawn by a Scale a quarter of an Inch to a Foot.*

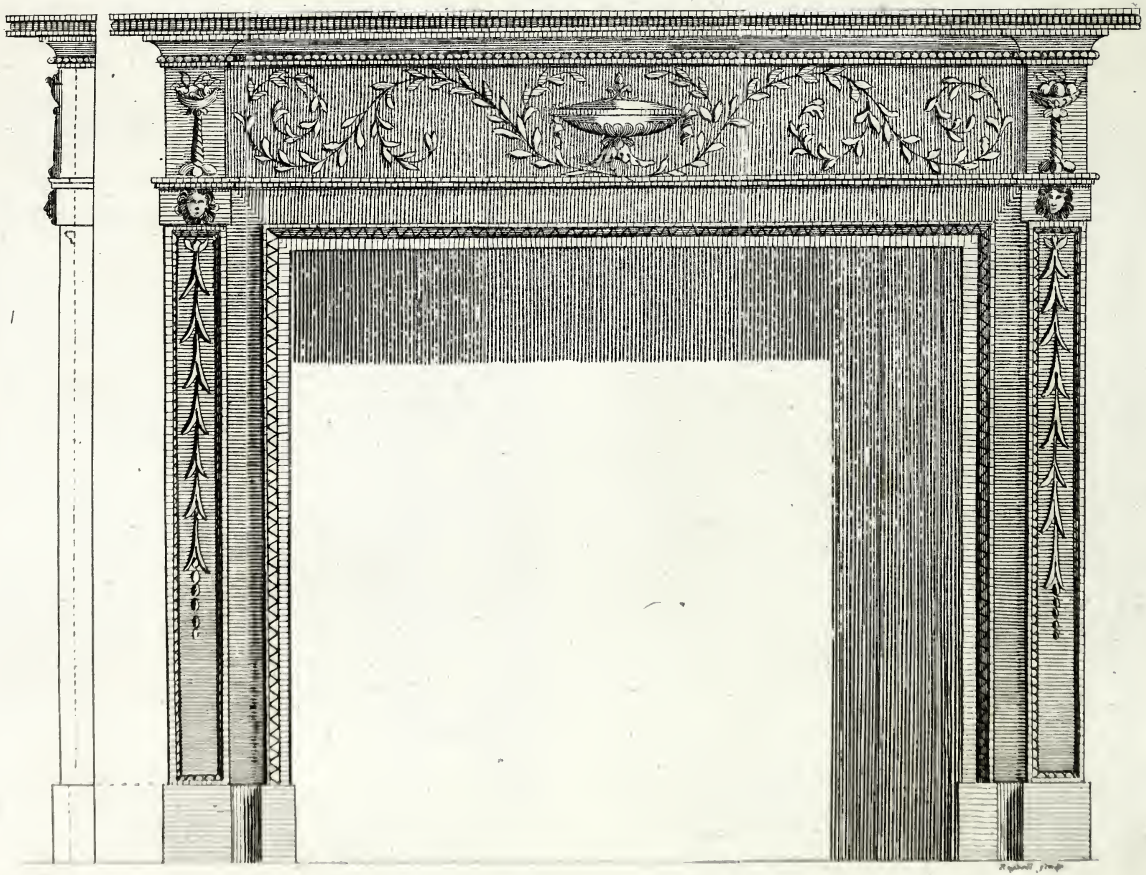




Design for a Chimney Peice, drawn one inch to a foot.

Published Augt 1st 1789 by W Pain

*Chimney piece drawn one inch to a Foot*

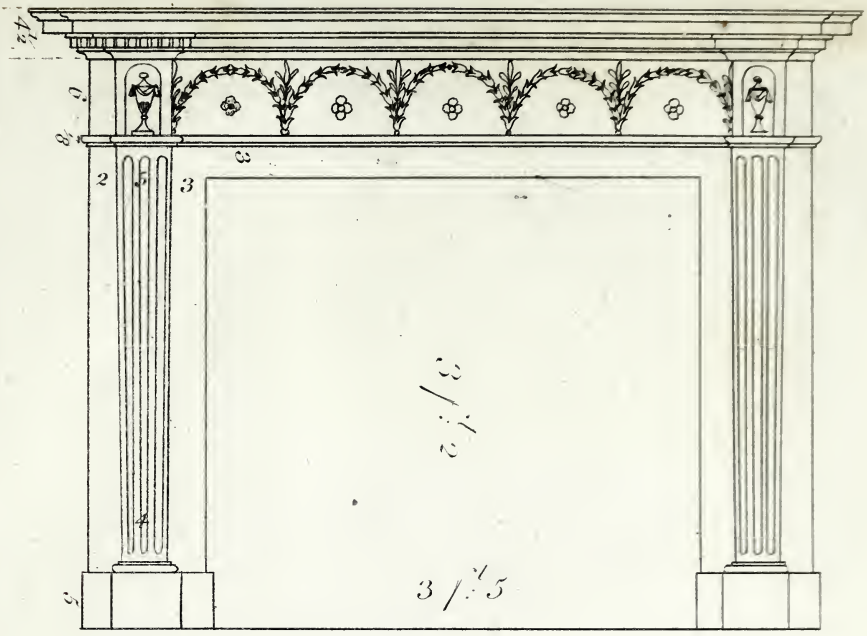


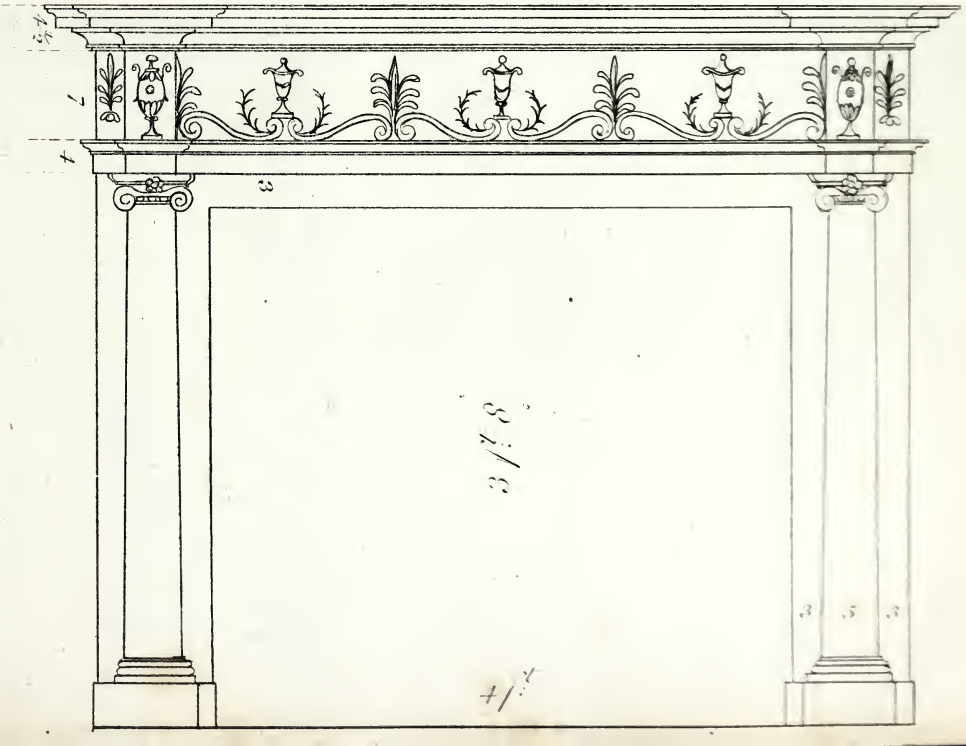
12 9 6 3 0 1 2 3

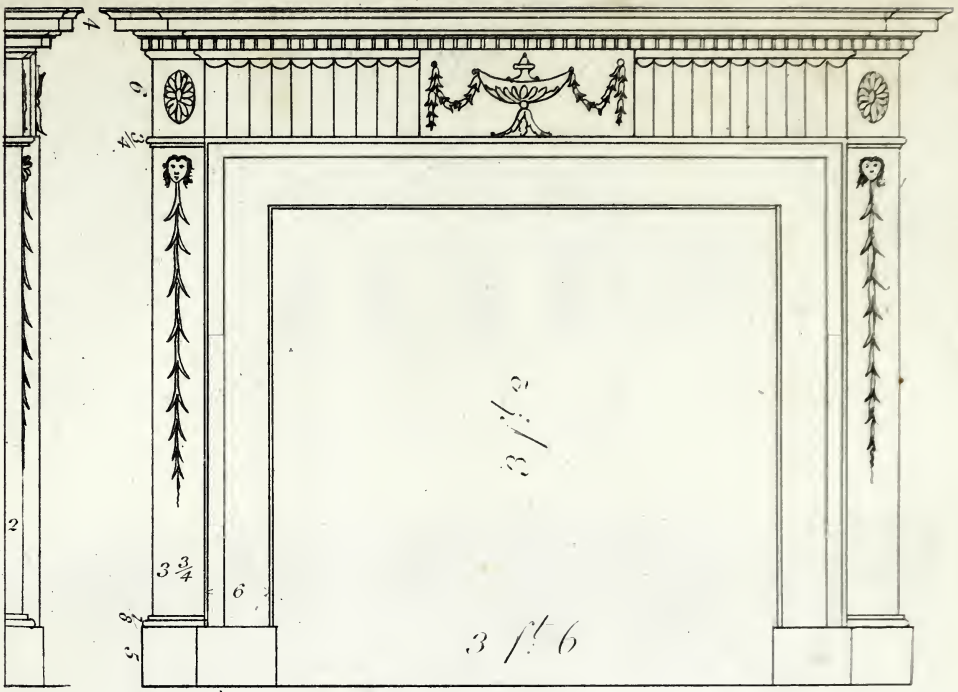
*Published Augst 1st, 1789 by W. Pain*

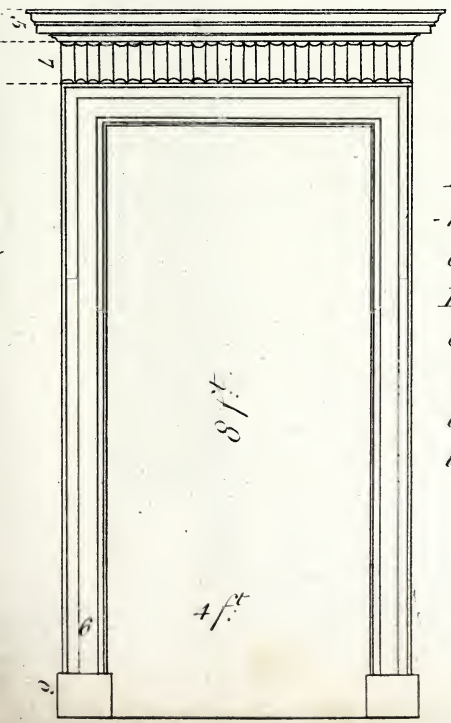
*Plate 80.*

# Designs for Doors, Chimneys, &c.

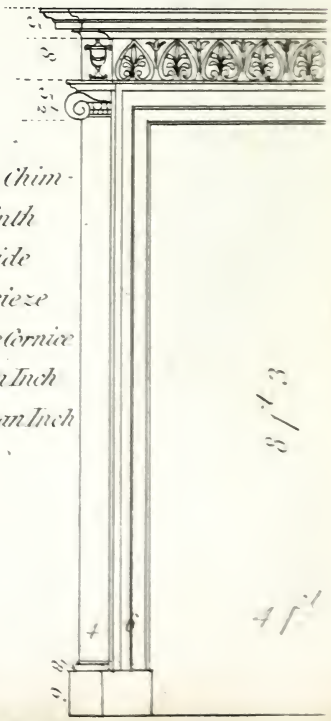


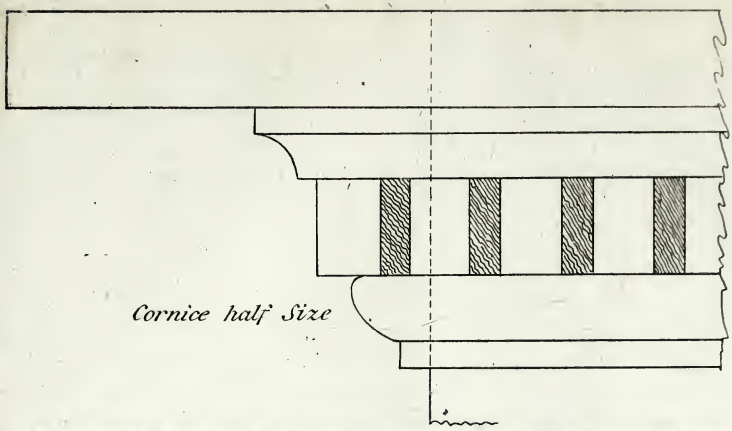




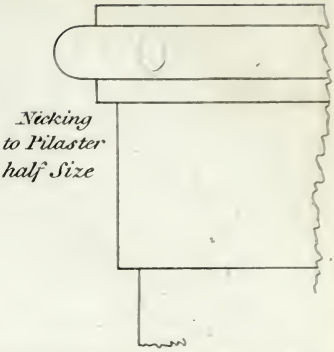




*Architraves to Doors and Chimneys, one Eighth, or one Ninth of the Clear opening the Side Pilaster ⅔ of Ditto; the Frieze one ¼ of the Architrave, the Cornice ¾ of ditto; the Doors ⅜ of an Inch to a Foot; the Chimneys ¾ of an Inch to a Foot.*

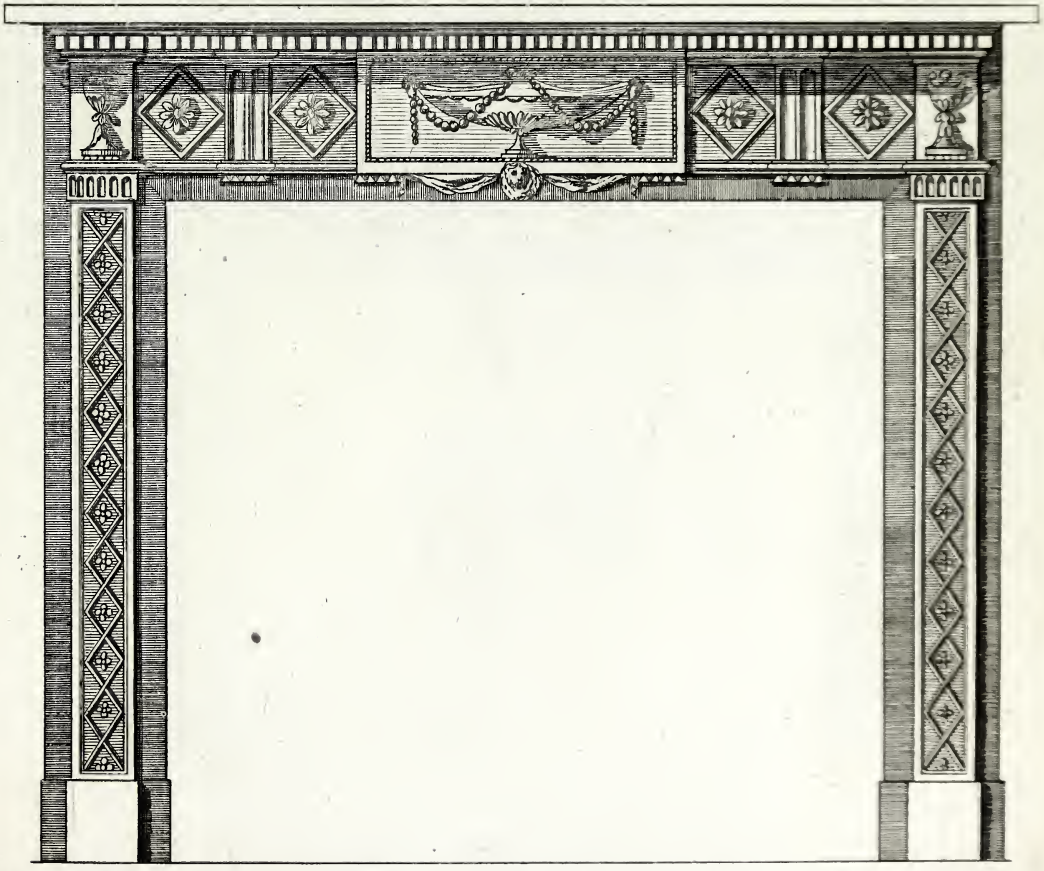




Cornice half Size



Necking
to Pilaster
half Size



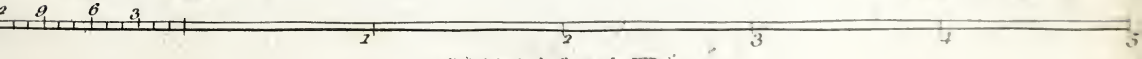



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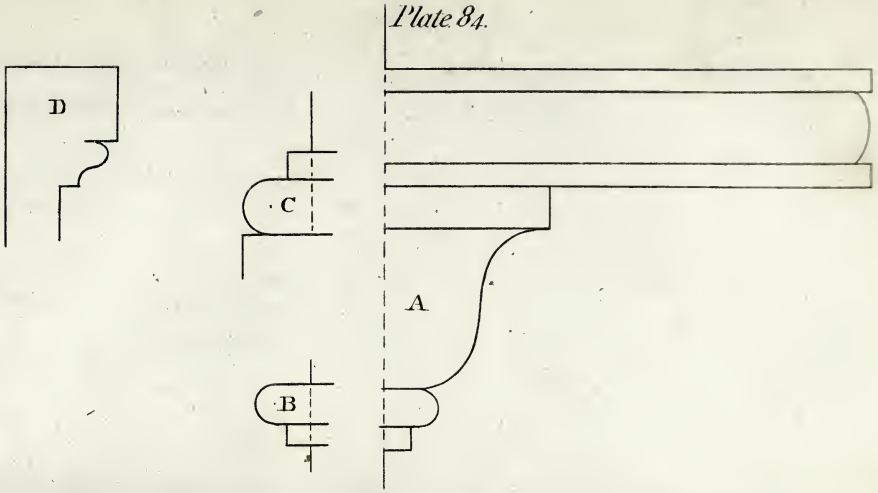
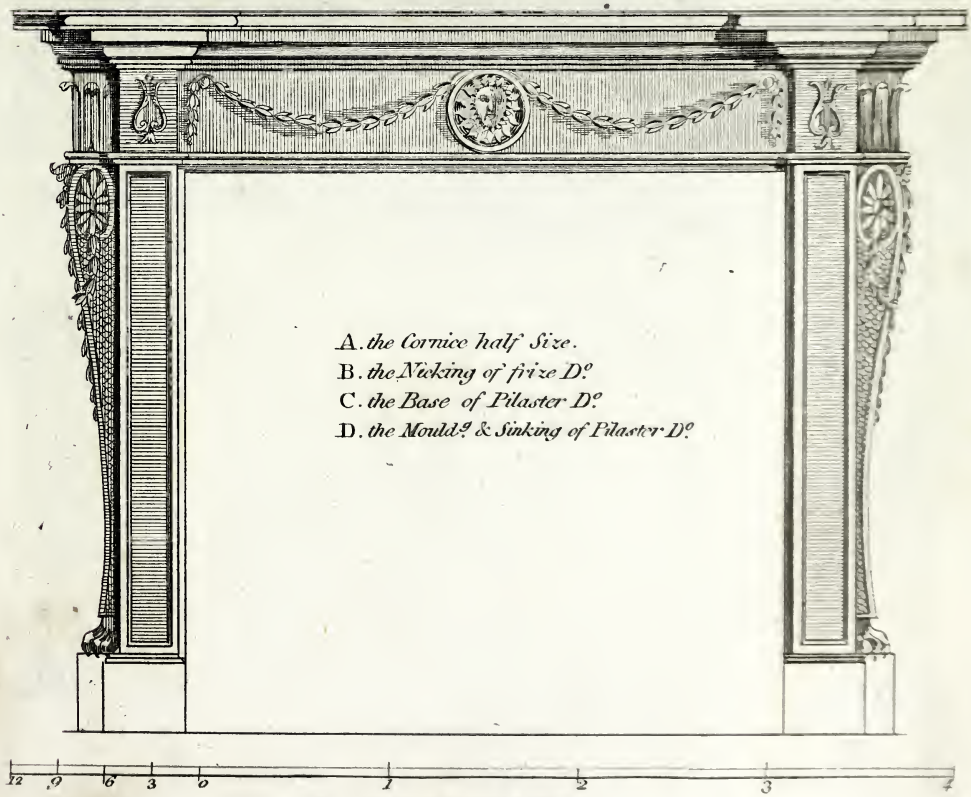
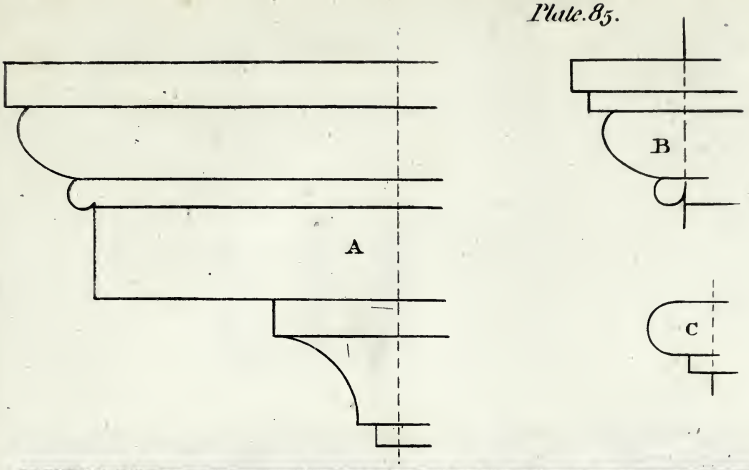
*Plate 84.*




Published Sepᵗ 1ˢᵗ 1781 by W Pain

*Plate.85.*

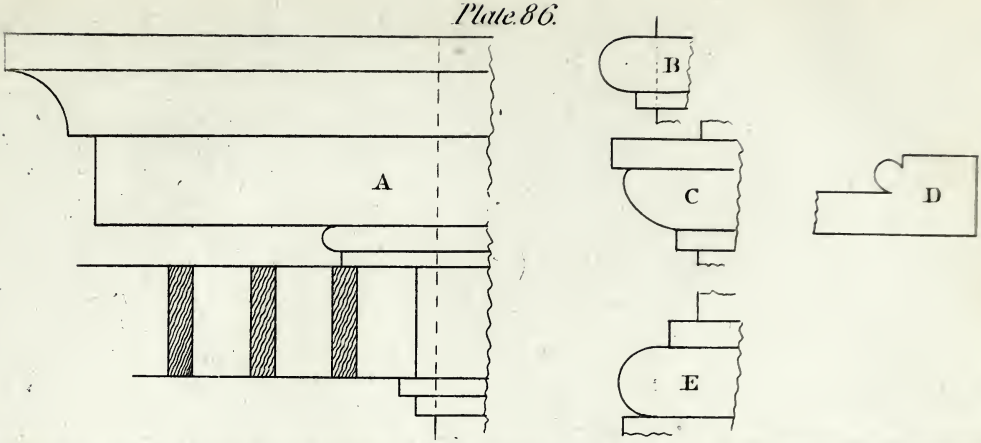



A *Cornice half Size*
B *Moulding round Stone*
C *Nicking of Block*

12 9 6 3 0 1 2 3 4

*Published Sep^r 1.1791 by W Pain*

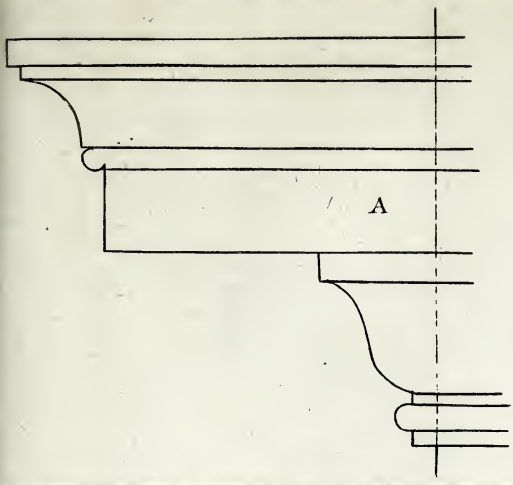
*Plate 86.*

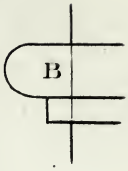


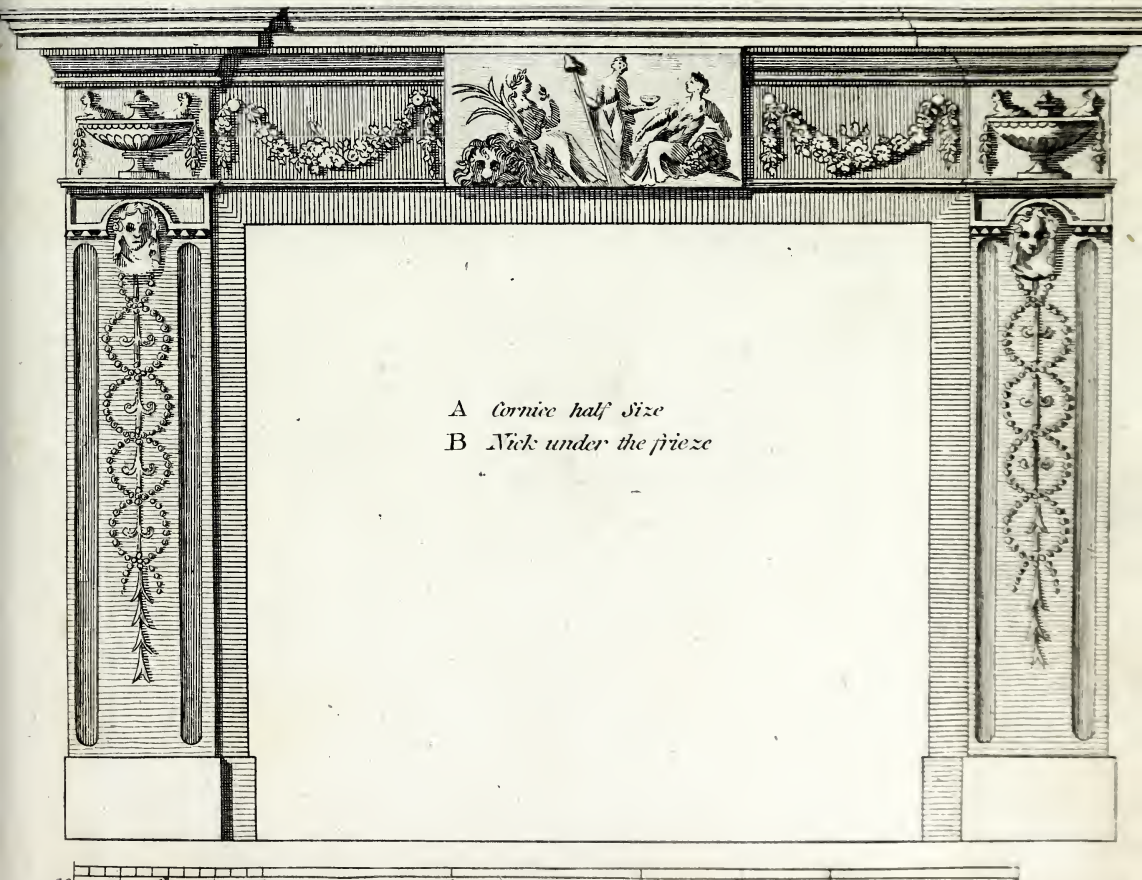

A *Cornice half Size*
B *Nicking on Stone*
C *Caping of Pilaster*
D *Margin round the Tablet*.
E *Base of Pilaster*

12 9 6 3 0 1 2 3 4

*Published Sept.r 1st 1781 by W. Pain.*



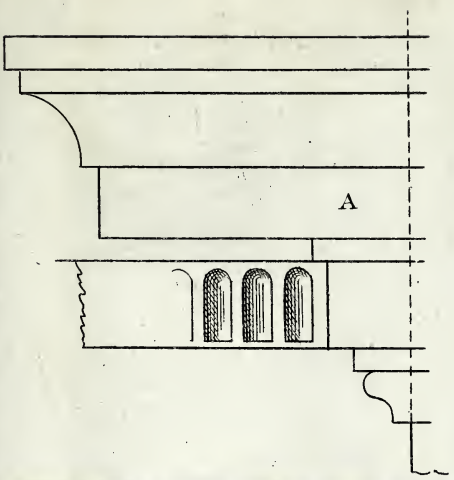



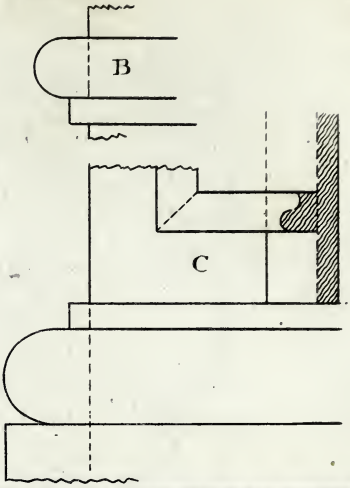
A *Cornice half Size*
B *Nick under the frieze*

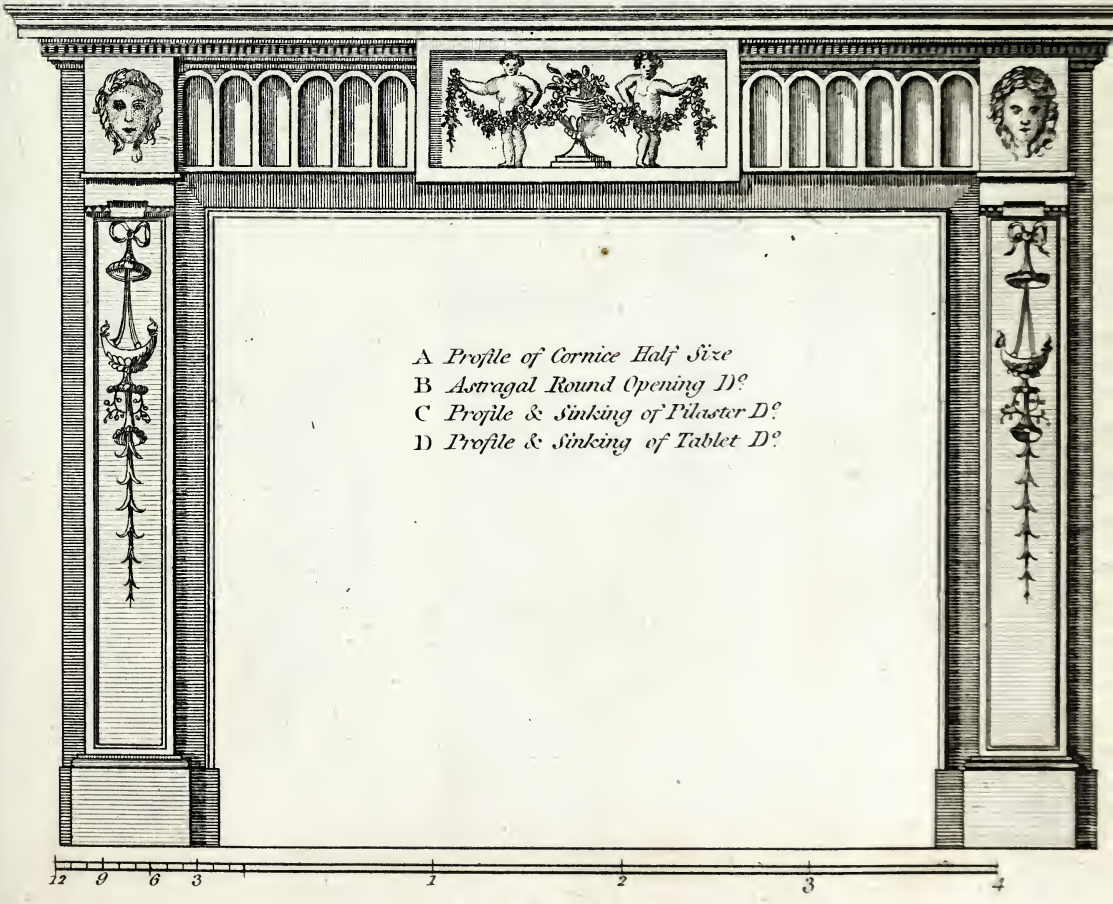
12 0 6 3 0 1 2 3 4

*Published Sept.1 1790 by W.Pain.*

*Plate. 88.*



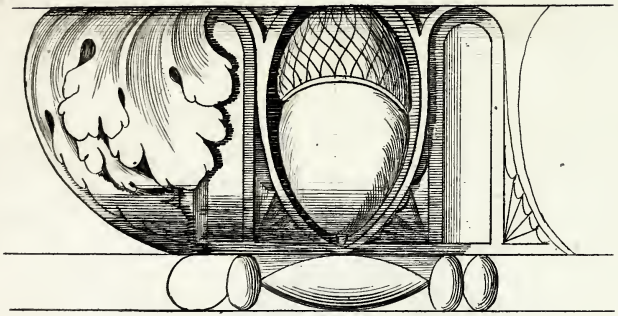



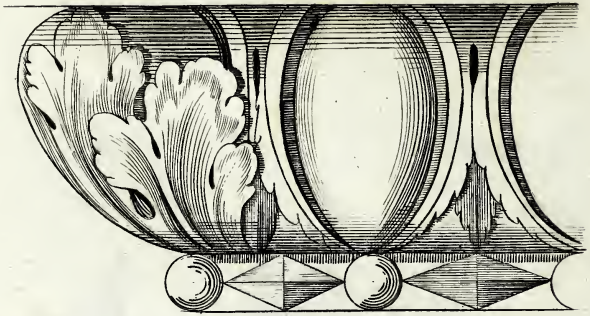


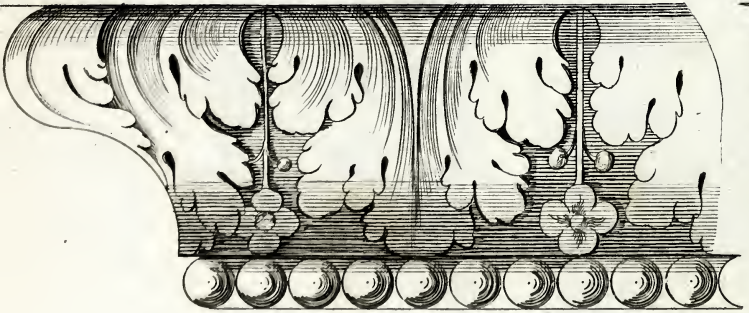
A *Profile of Cornice Half Size*
B *Astragal Round Opening D°*
C *Profile & Sinking of Pilaster D°*
D *Profile & Sinking of Tablet D°*

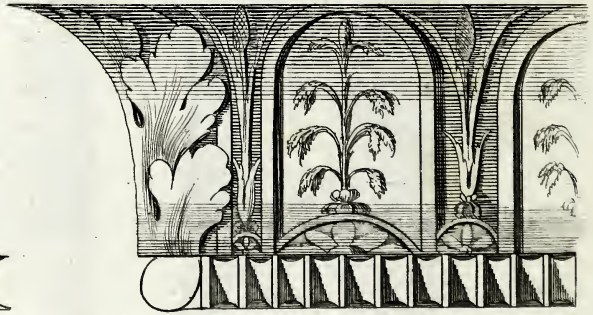
12 9 6 3 1 2 3 4

*Published Sep.r 2.1792. by W.Pain.*





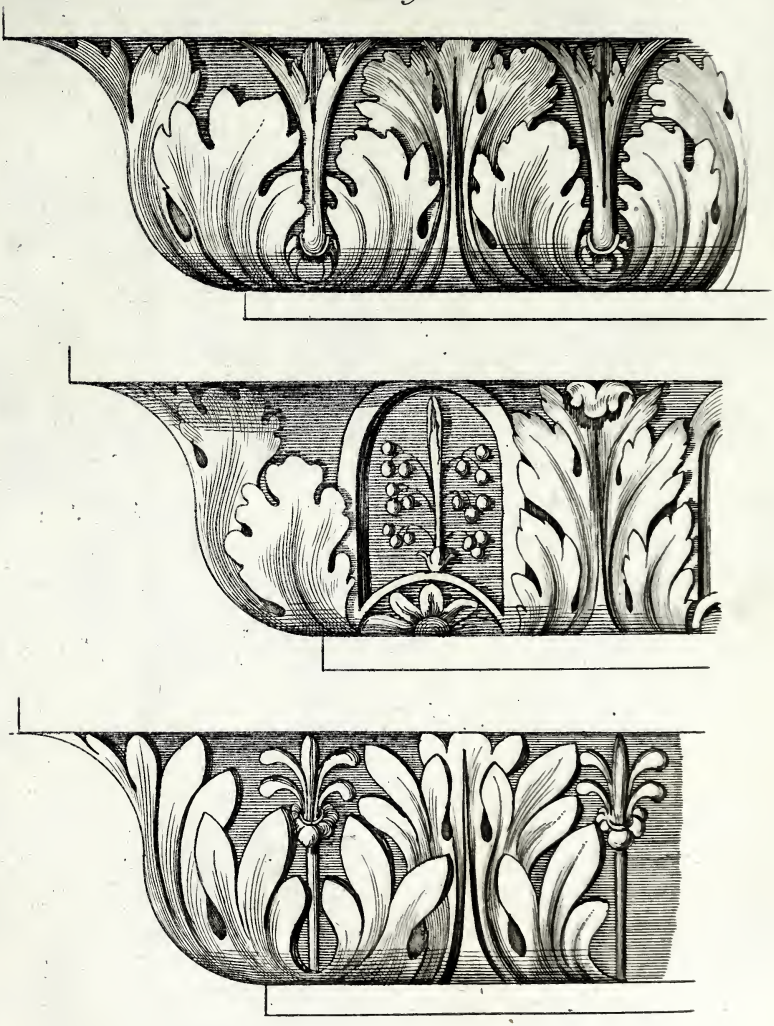




*Seven or Nine Flutes between the Heads.*

*Published Sep.ber 1.1790 by W.Pain.*

*Plate. 90.*



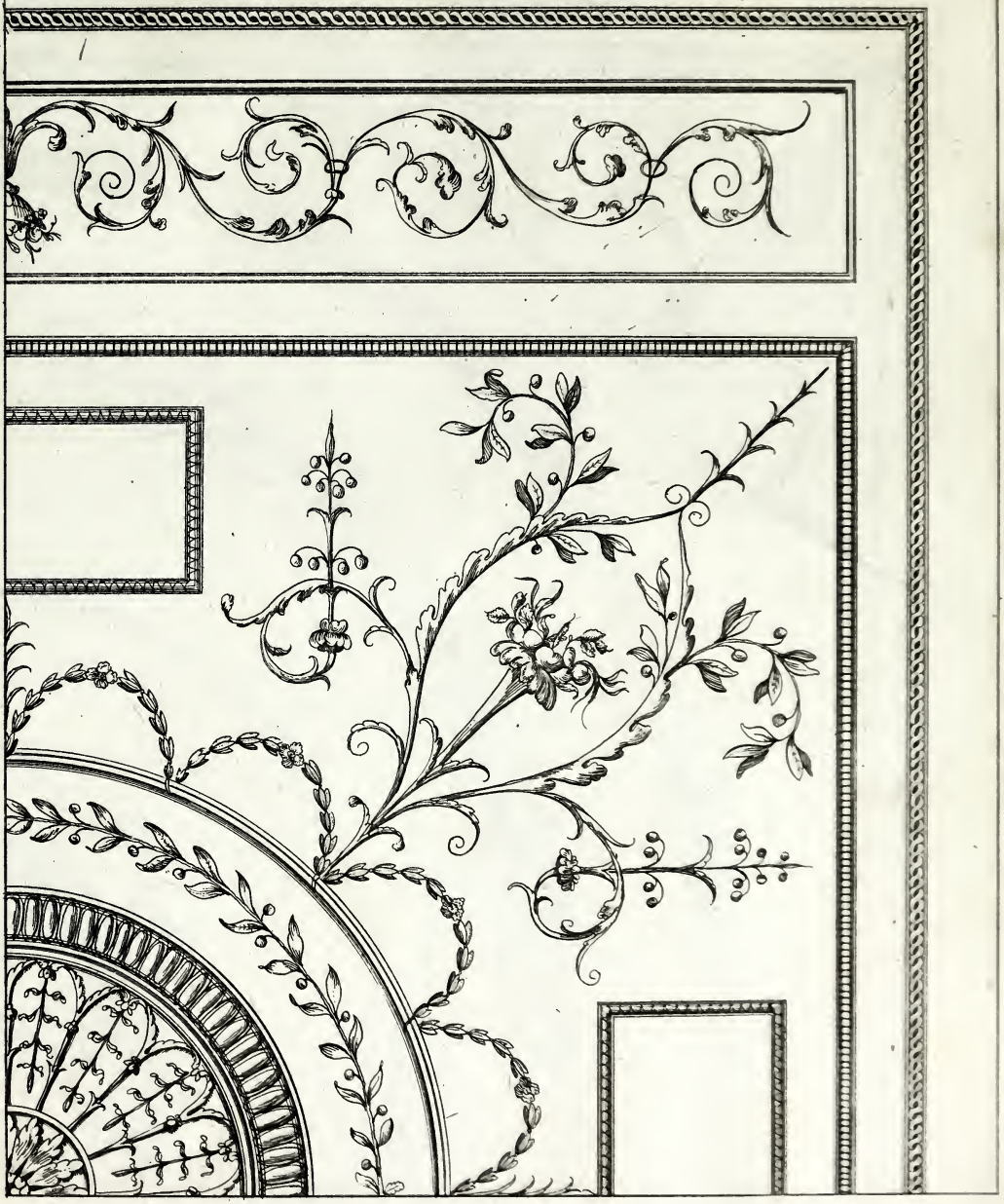
*Published Sep^r 1.1791 by W.Pain.*

Vine leaves and Grapes dropt from a Pine for the face of a Pilaster or any place required

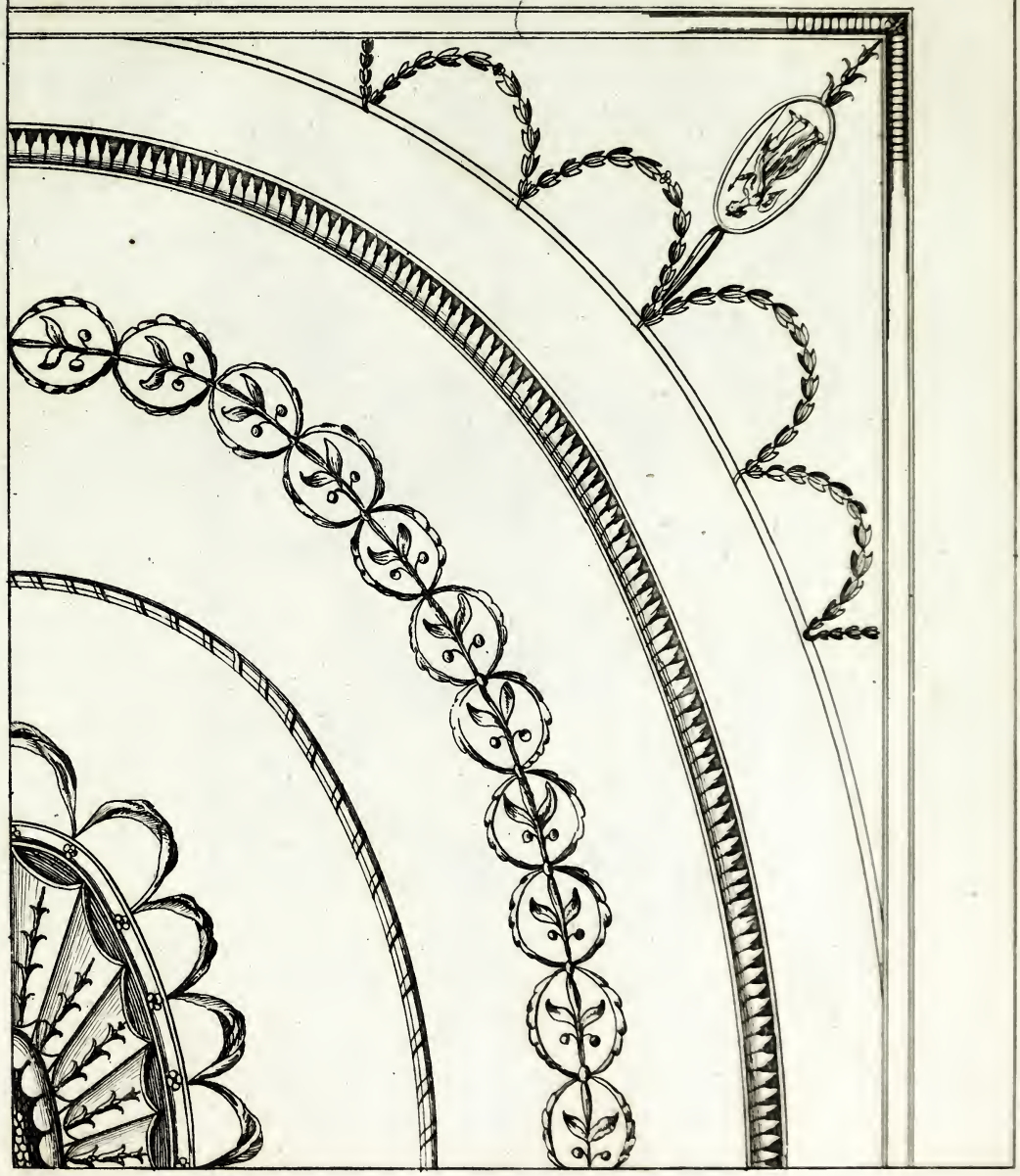
Oak leaves & acorns dropt from a lions Mask for a Pilaster

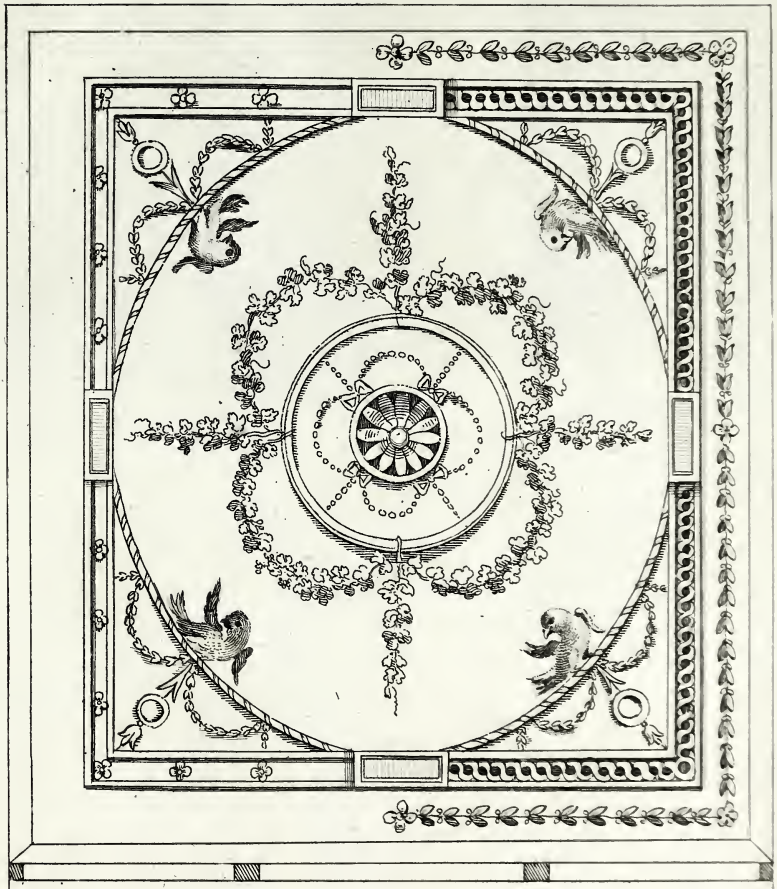
Publish'd Oct'r 1750 by W Pain

One Fourth of a Ceiling



*One fourth of a Ceiling*



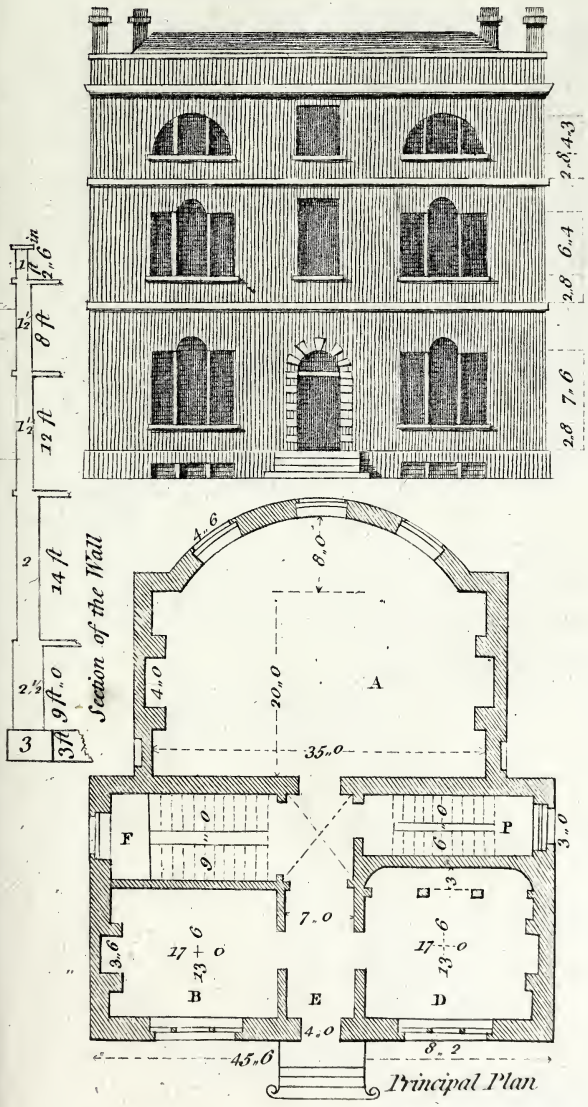


Ceiling to Dining Room in Plate 18.

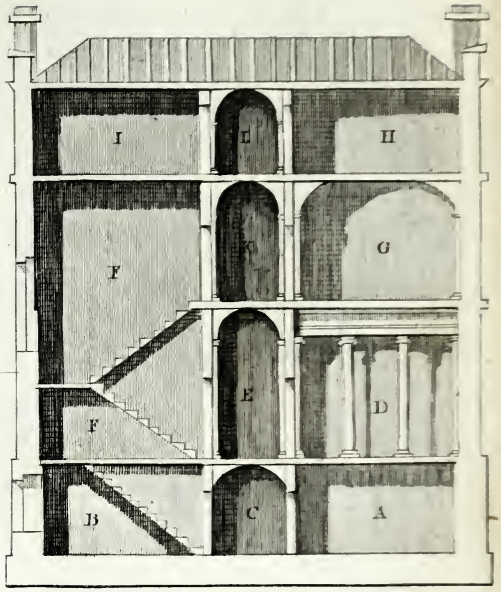
12 24 36 48

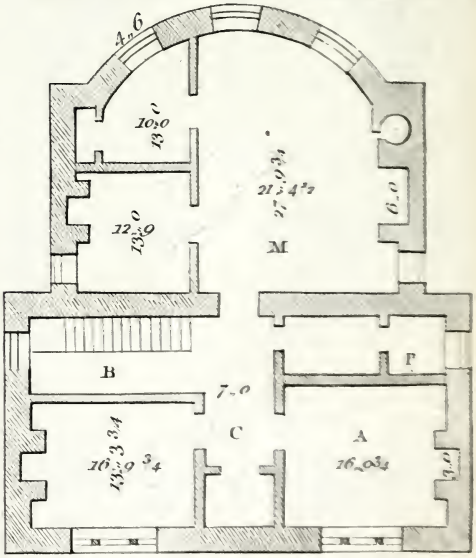
Published Dec.a.1791 by W.Pain.

*Plan and Elevation of a Gentlemans House, with all the Measures figured; the Kitchen and other Offices in the Basement Story.*

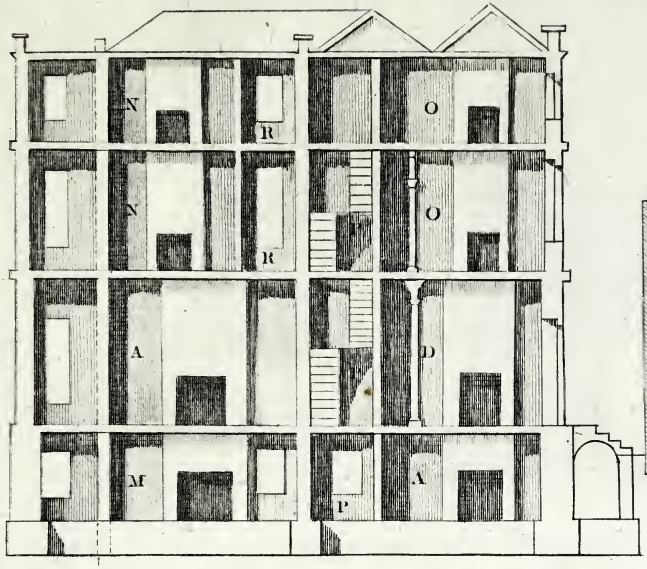



B, *Parlour*. D, *Dining Room*. A *Ball Room*.
F, *Staircase*. E, *Passage*. P, *Back Stairs*.

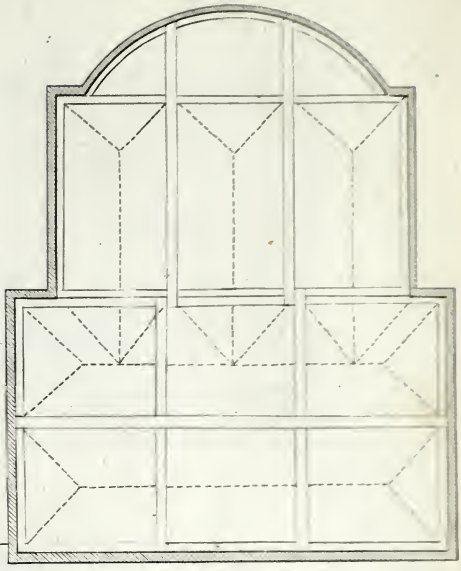




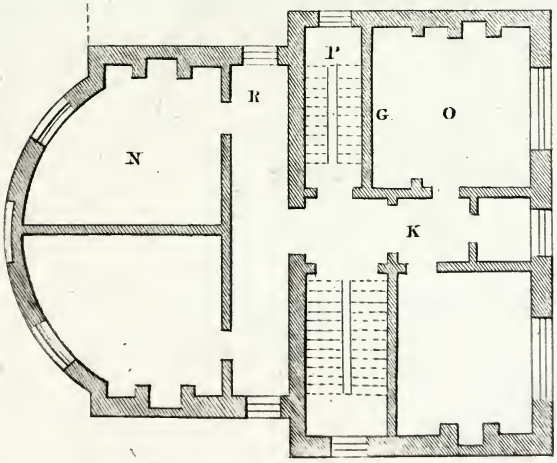
*Basement Plan, and Section, the Letters on the Plan, are References to the Letters, in the Section, which shews the sides of the Rooms the Section represents.*

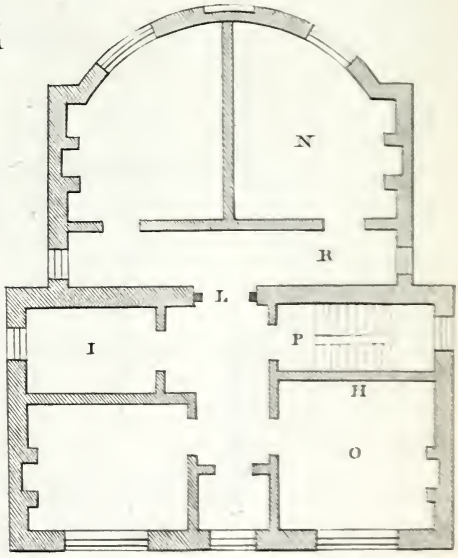



*One-pair Plan and Section, the Letters on the Plan are References to the Letters in the Section, which shews the Ends of the Rooms the Section represents. Pl. 95.*



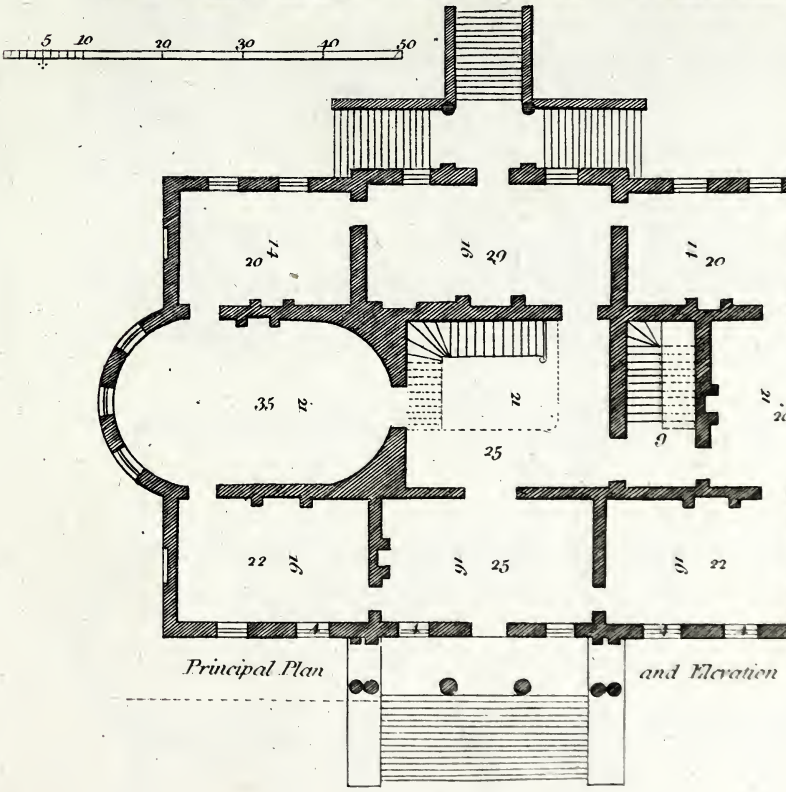
*Plan of the Roof*




*Plan of the Attic Floor*

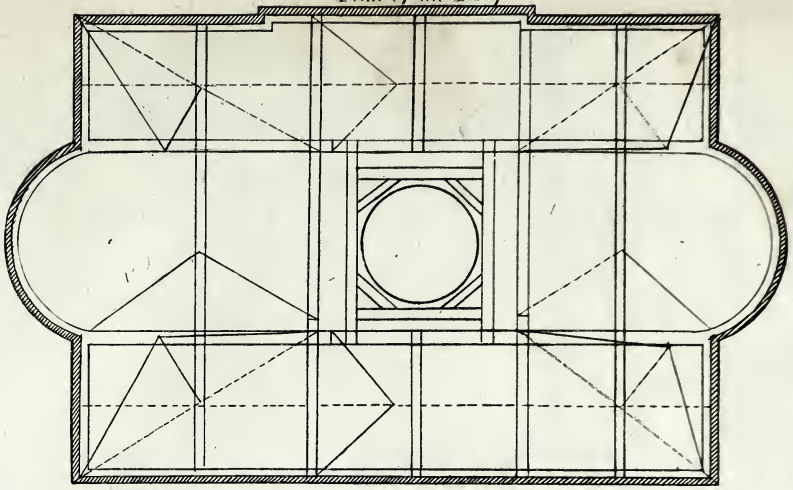
Rigby E. sculp.

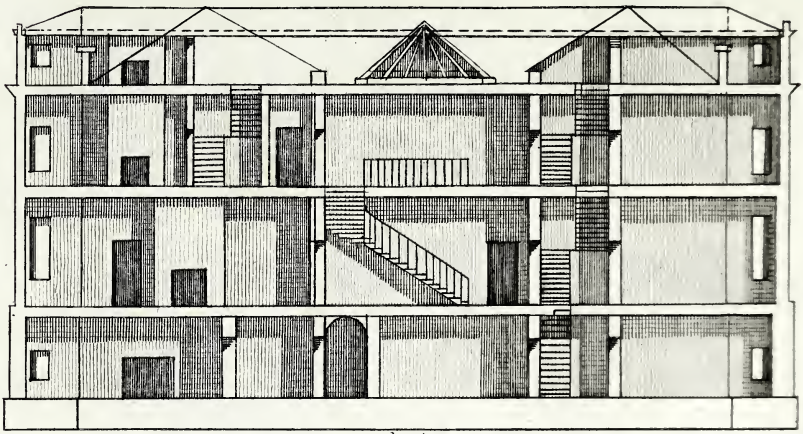



Principal Plan and Elevation

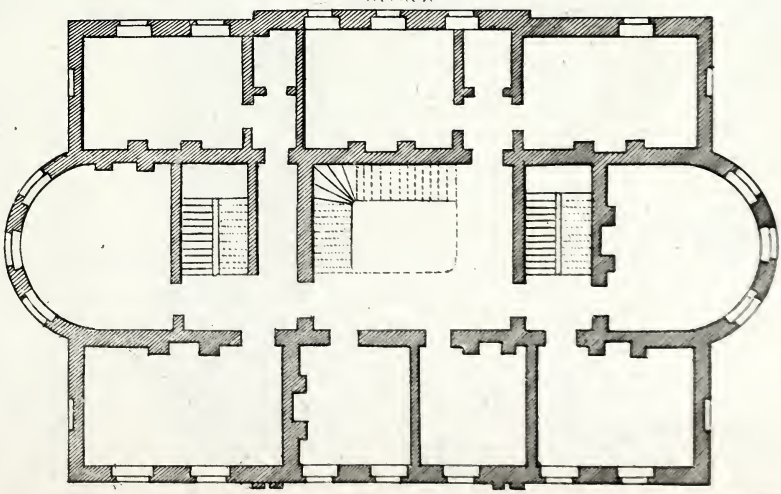
Published by W. Pain, Aug.t 16, 1789

Plan of the Roof



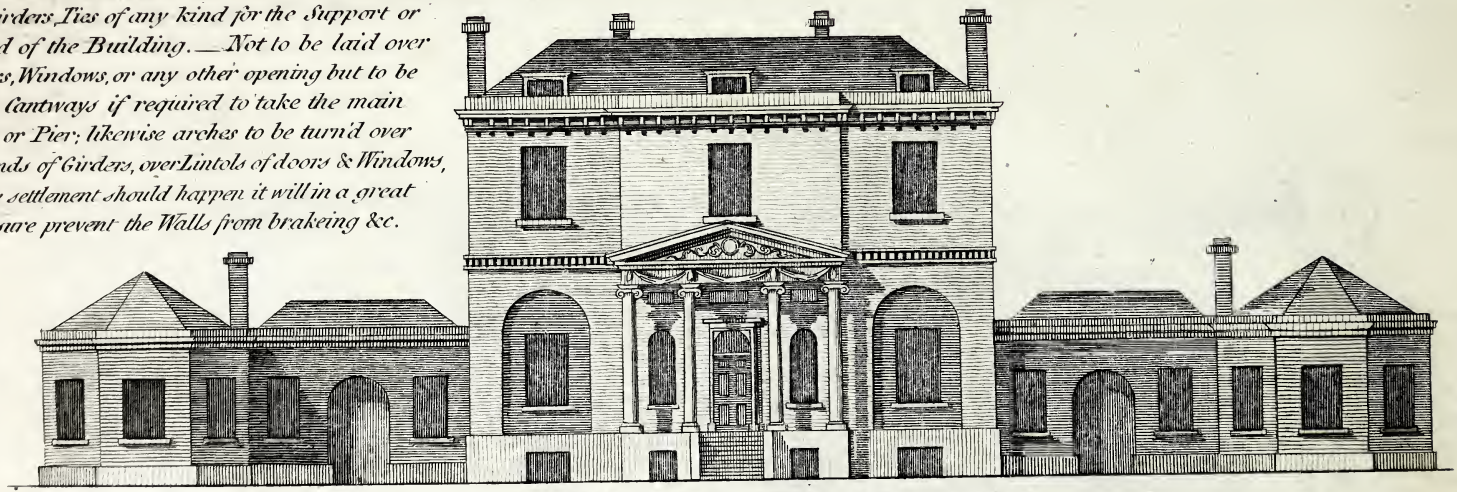


Section



One pair of Stairs Plan and Section to Plate 104.

*A Caution for laying in Timbers in Buildings, as Girders, Ties of any kind for the Support or Bond of the Building.—Not to be laid over Doors, Windows, or any other opening but to be laid Cantways if required to take the main wall or Pier; likewise arches to be turn'd over the ends of Girders, over Lintols of doors & Windows, if any settlement should happen it will in a great measure prevent the Walls from brakeing &c.*



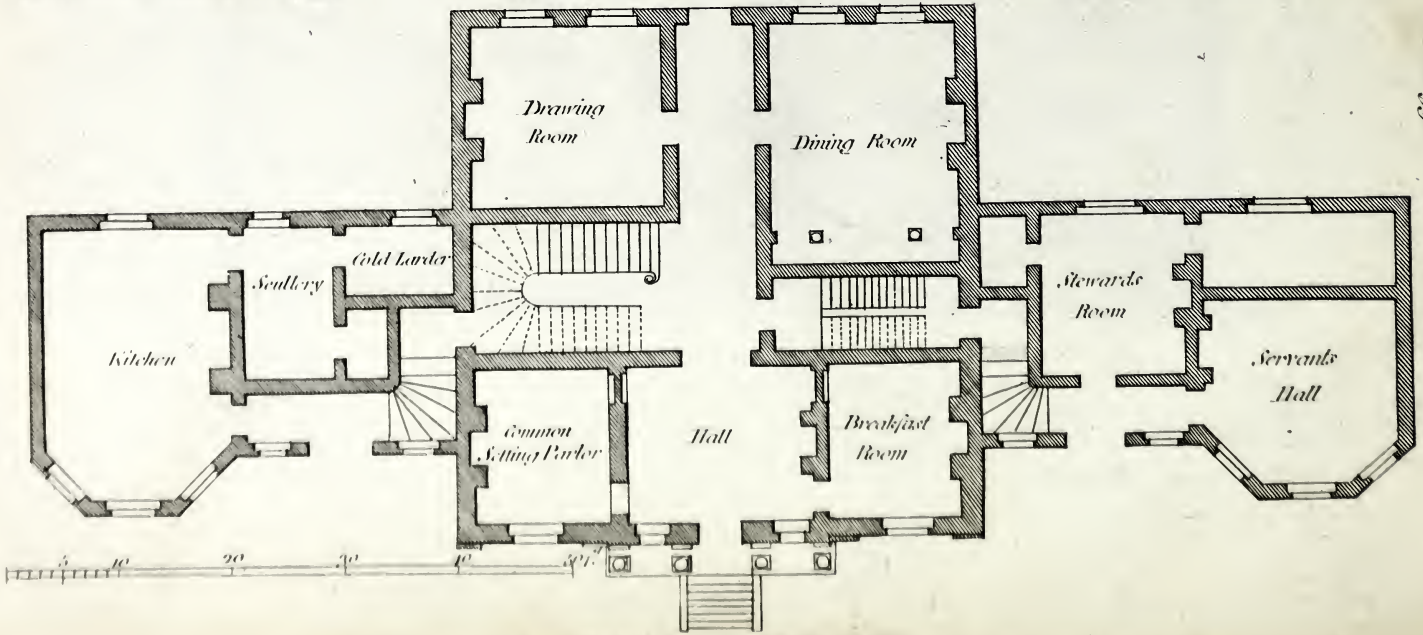
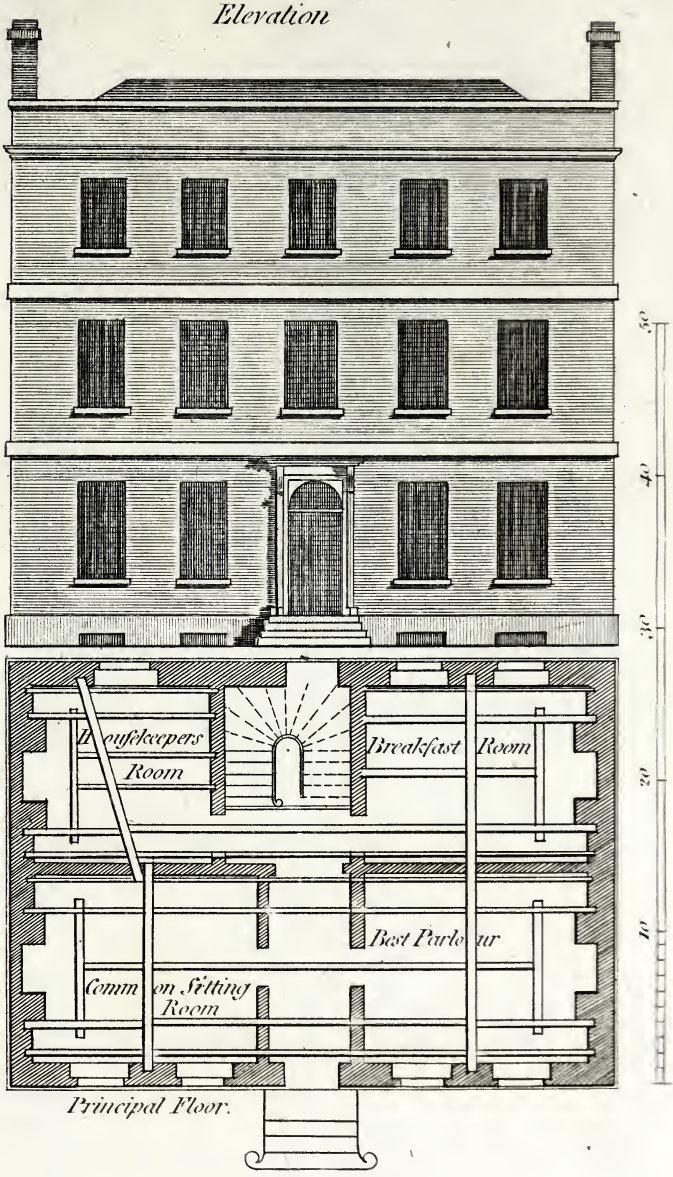



Plate 99.

Published by W Pain August 14 1789

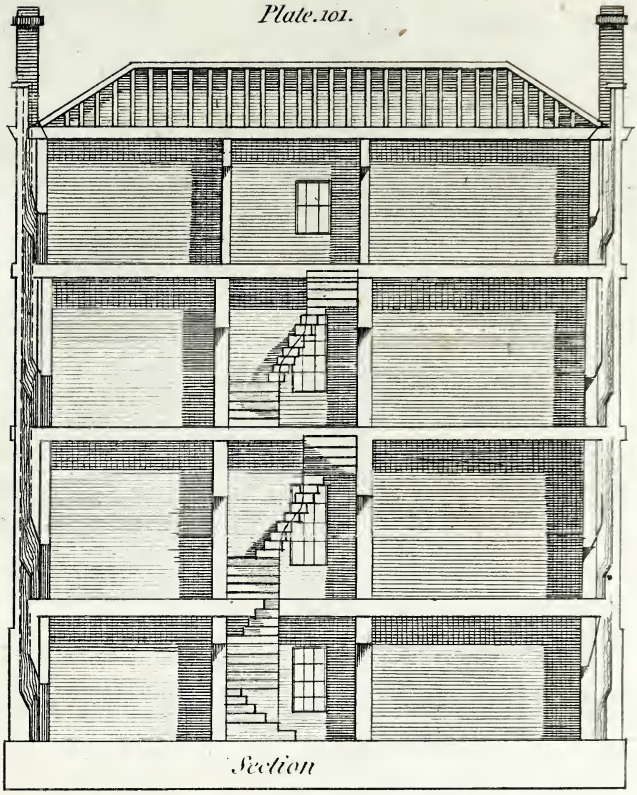
*Plate 100.*

*Elevation*

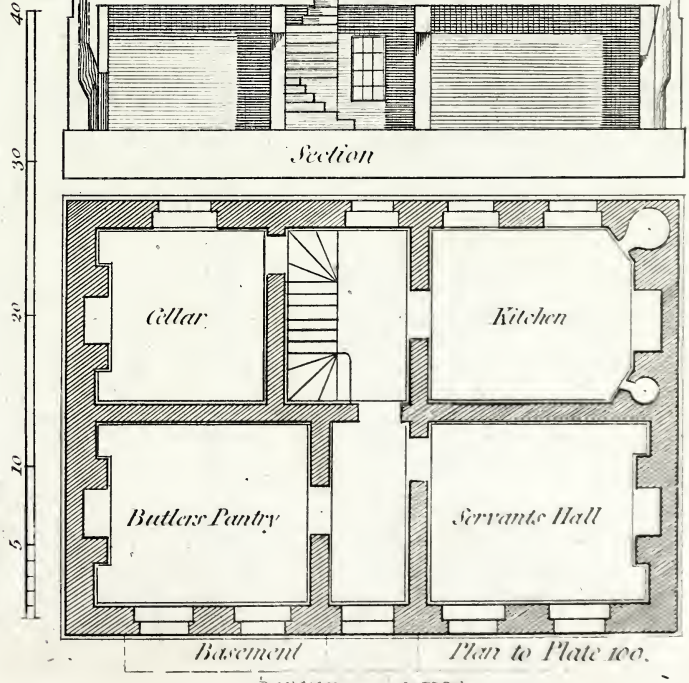



Published May 1 1790 by W Pain

*Plate.101.*



*Section*

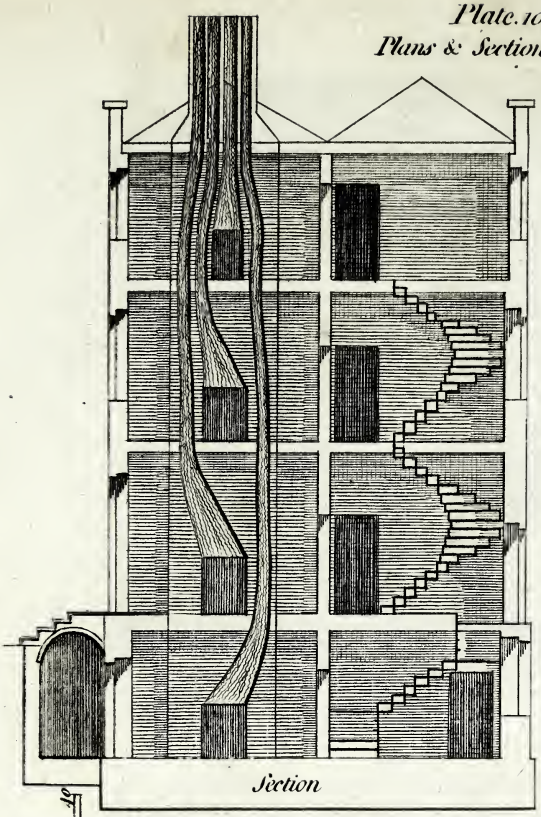



*Basement* *Plan to Plate 100.*

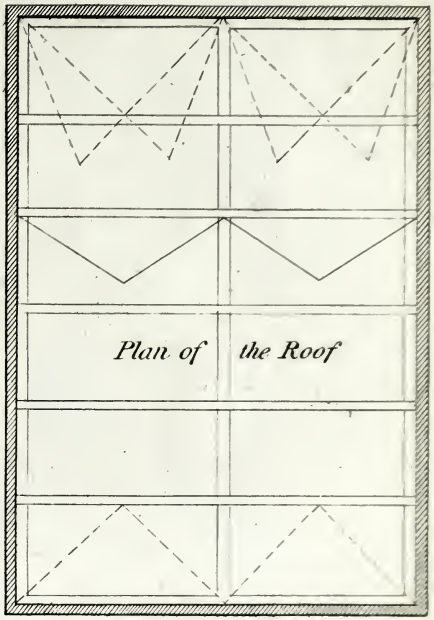
*Published May 1 1790 by W. Pain.*

*Plate. 102.*

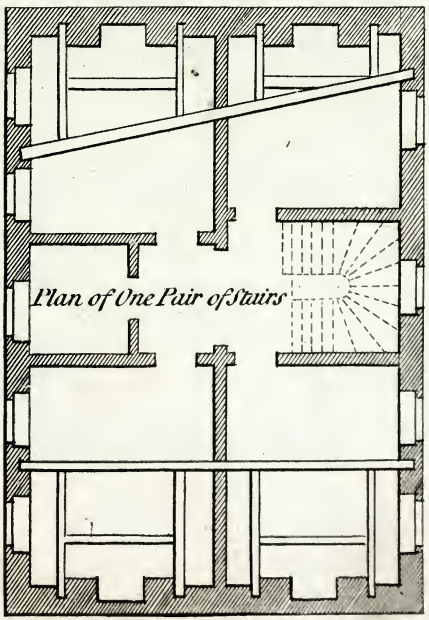
*Plans & Section to Plate 100.*



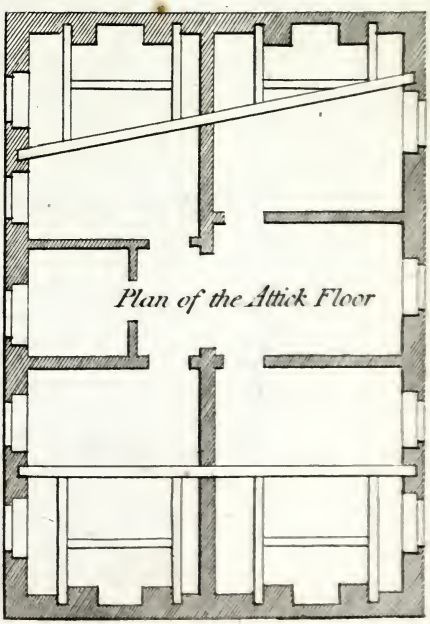
*Section*



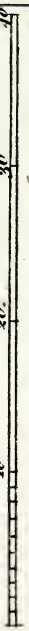
*Plan of the Roof*



*Plan of One Pair of Stairs*

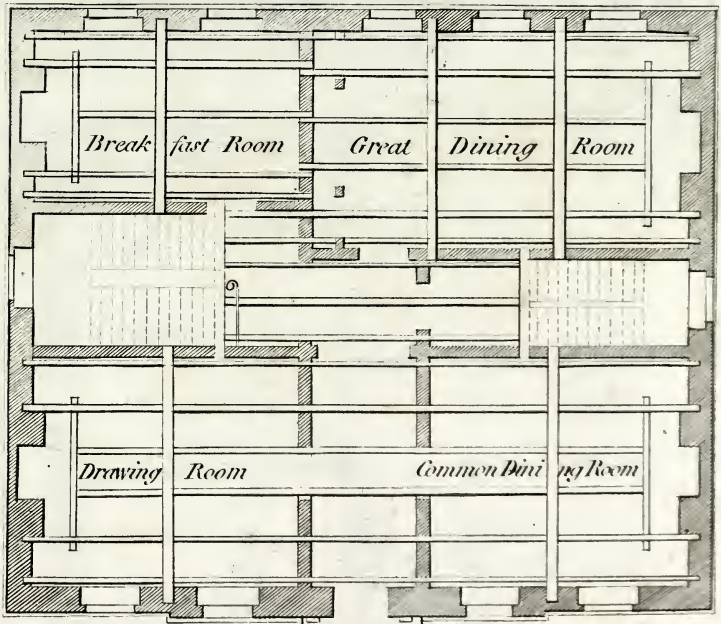


*Plan of the Attick Floor*




*Published May 14. 1790 by W. Pain.*

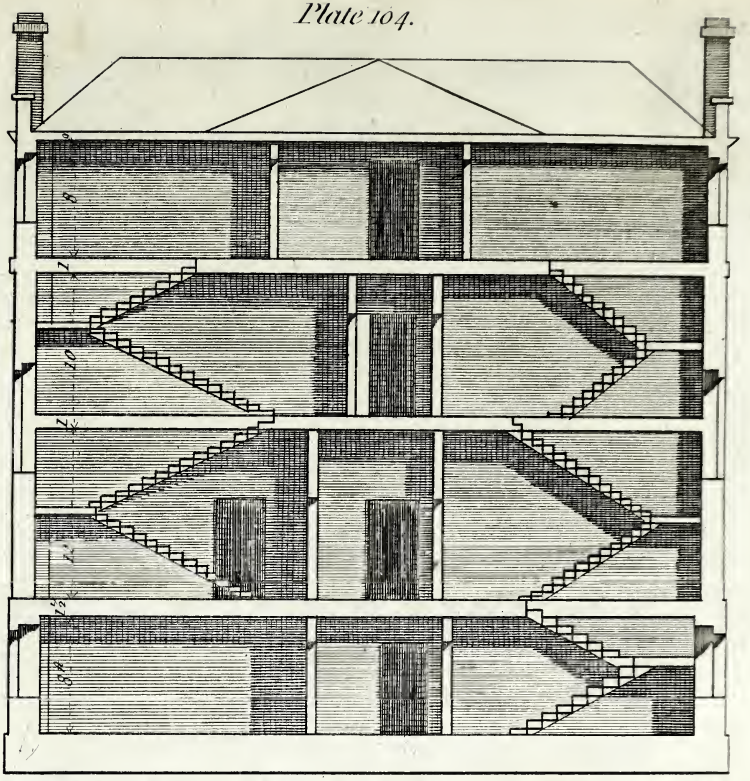
Plate 103.

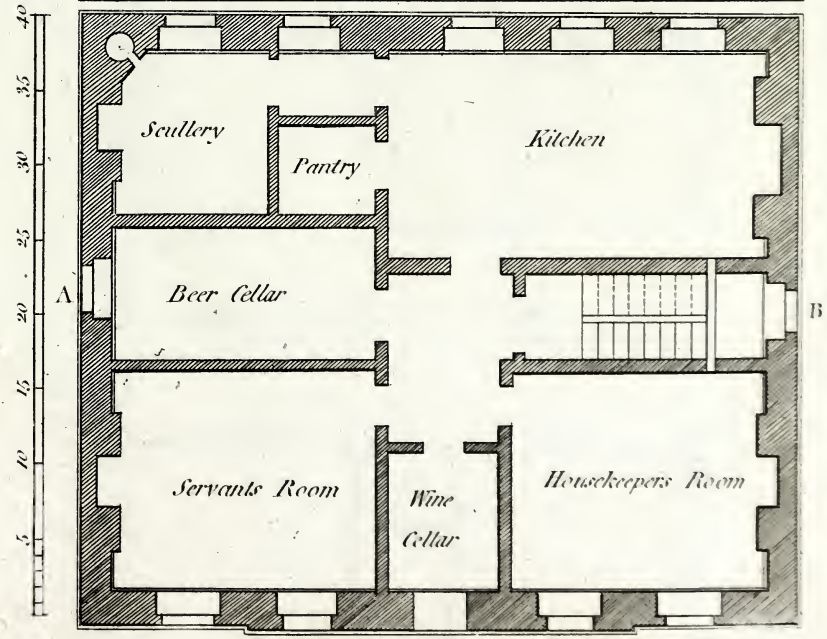



Principal Plan and Elevation

5 10 20 30 40

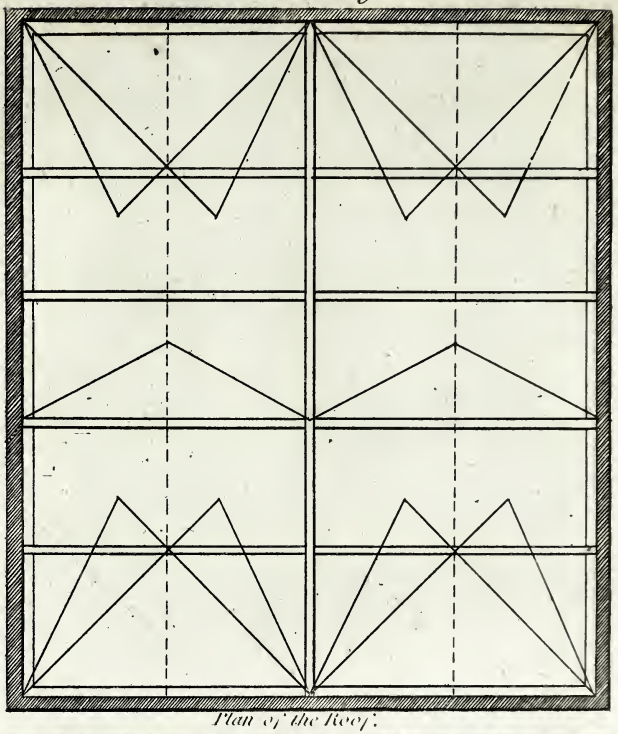
Published May 14 1790 by W Pain



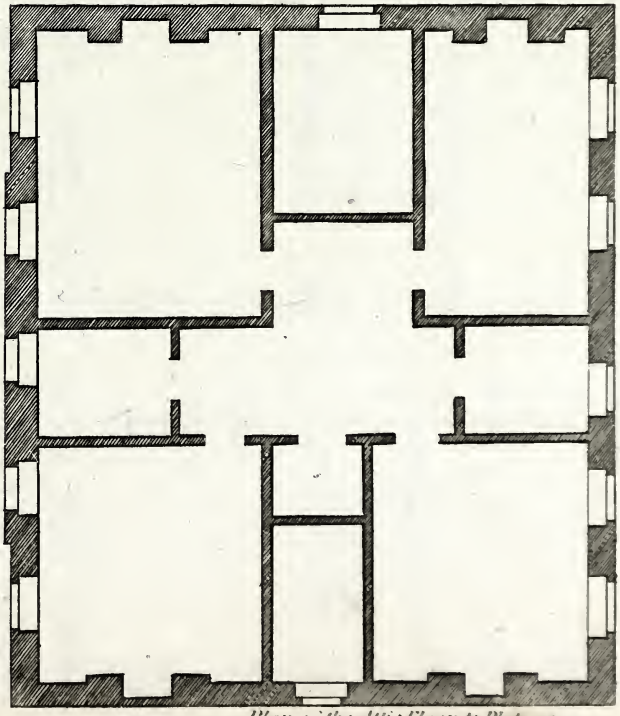



Basement Plan and Section from A to B. to Plate 103.

Published May 1.1791 by W. Pain

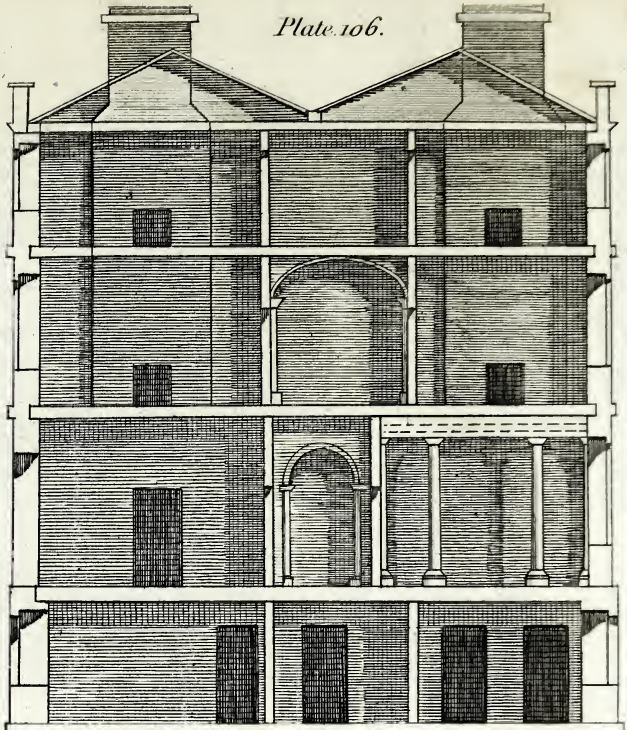


Plan of the Roof.

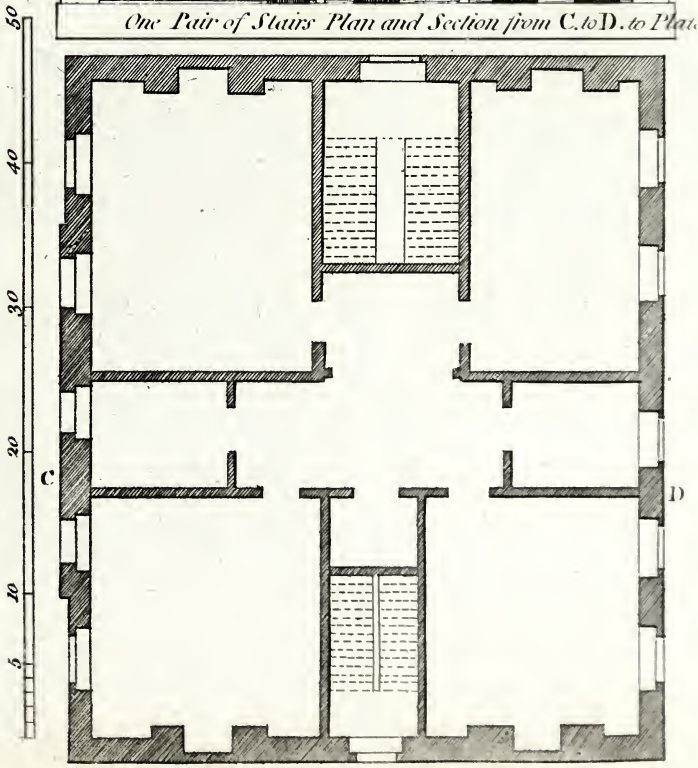


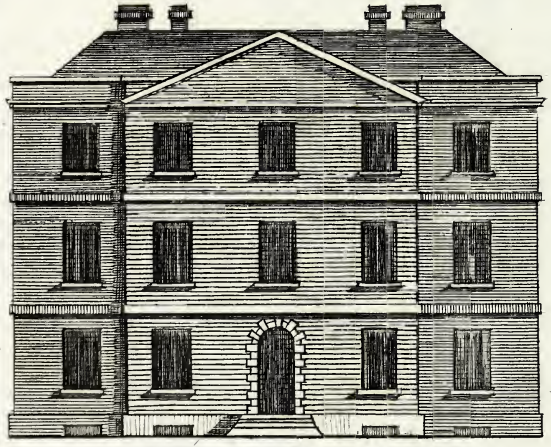
Plan of the Attic Floor to Plate 103.

Plate 106.

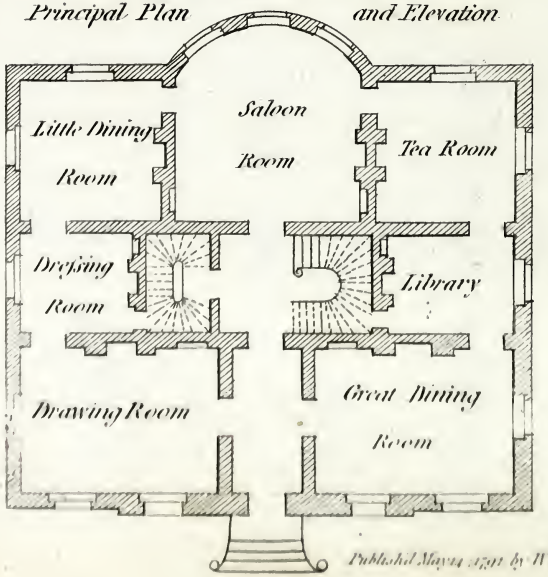


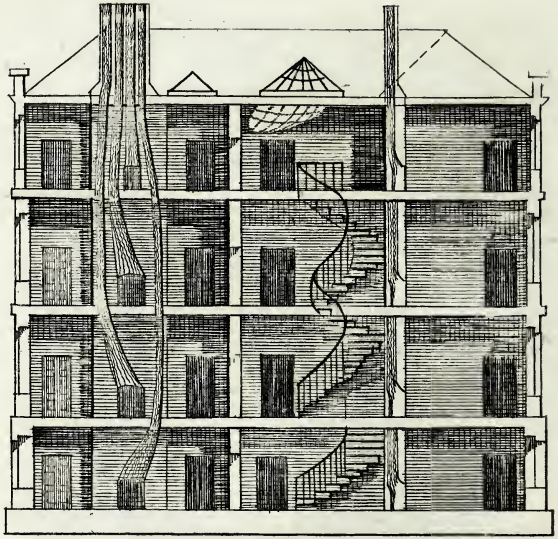
One Pair of Stairs Plan and Section from C. to D. to Plate 103.



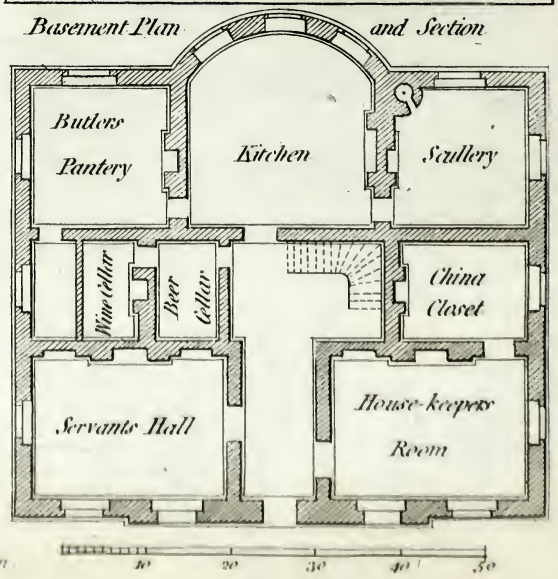


Principal Plan and Elevation



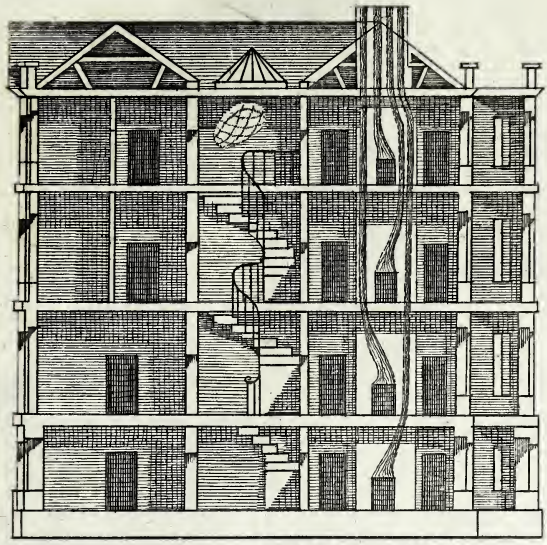
Basement Plan and Section

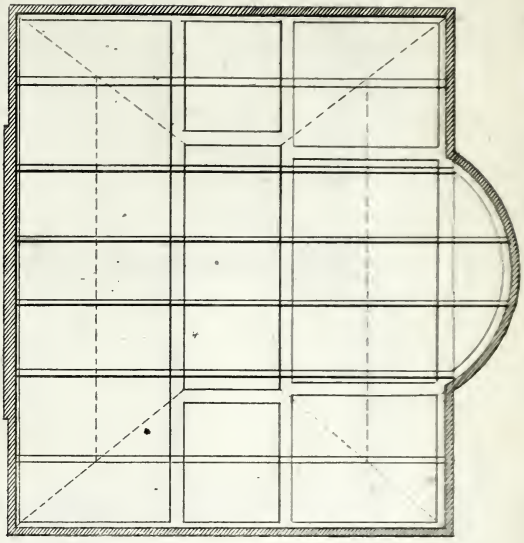



Published May 1st 1791 by W. Pain

Plate 107.

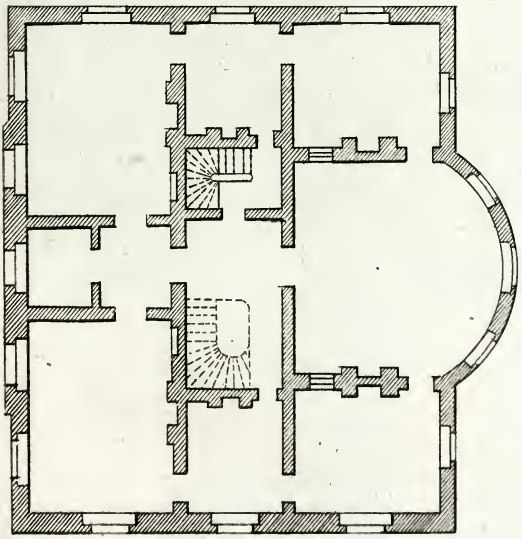
*Plate 108.*

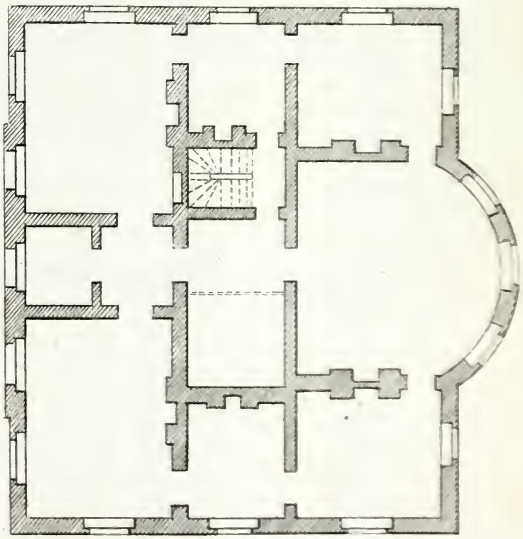




*Plan of the Roof*

*One Pair of Stairs Plan & Section, Attic plan and Roof to Plate 107.*

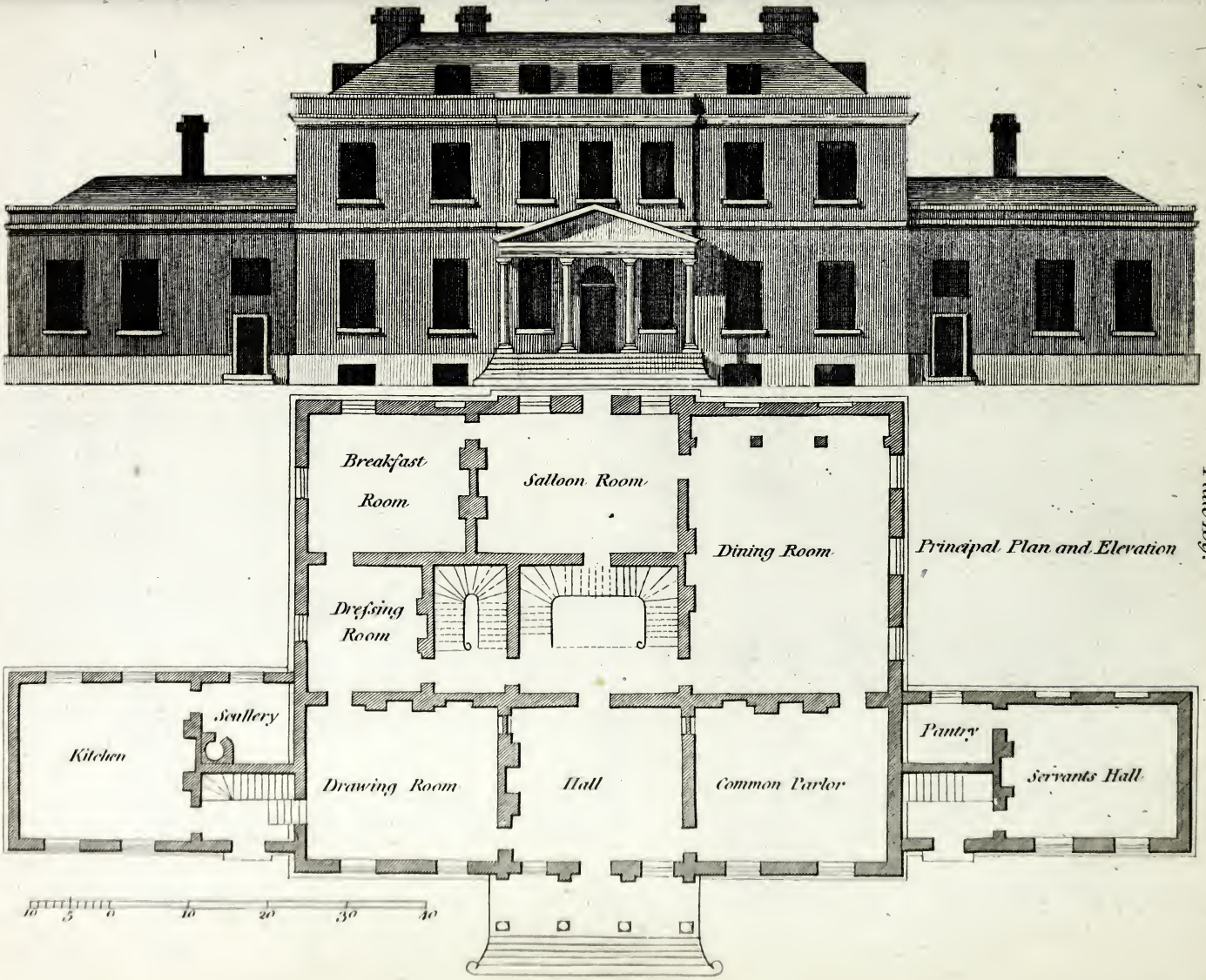




*Attic Plan*

10 20 30 40 50

*Published May 14: 1793 by W. Pain.*

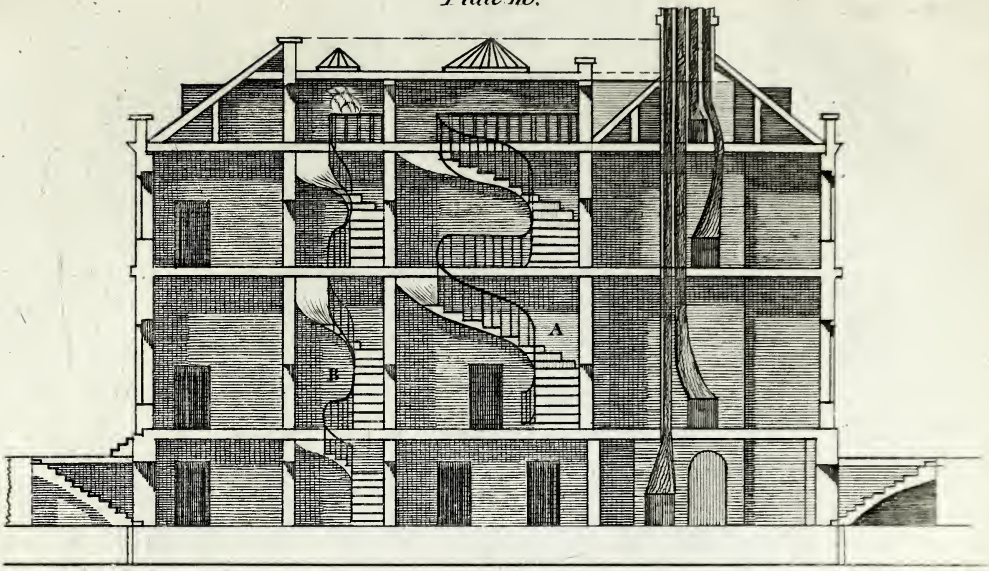



Principal Plan and Elevation

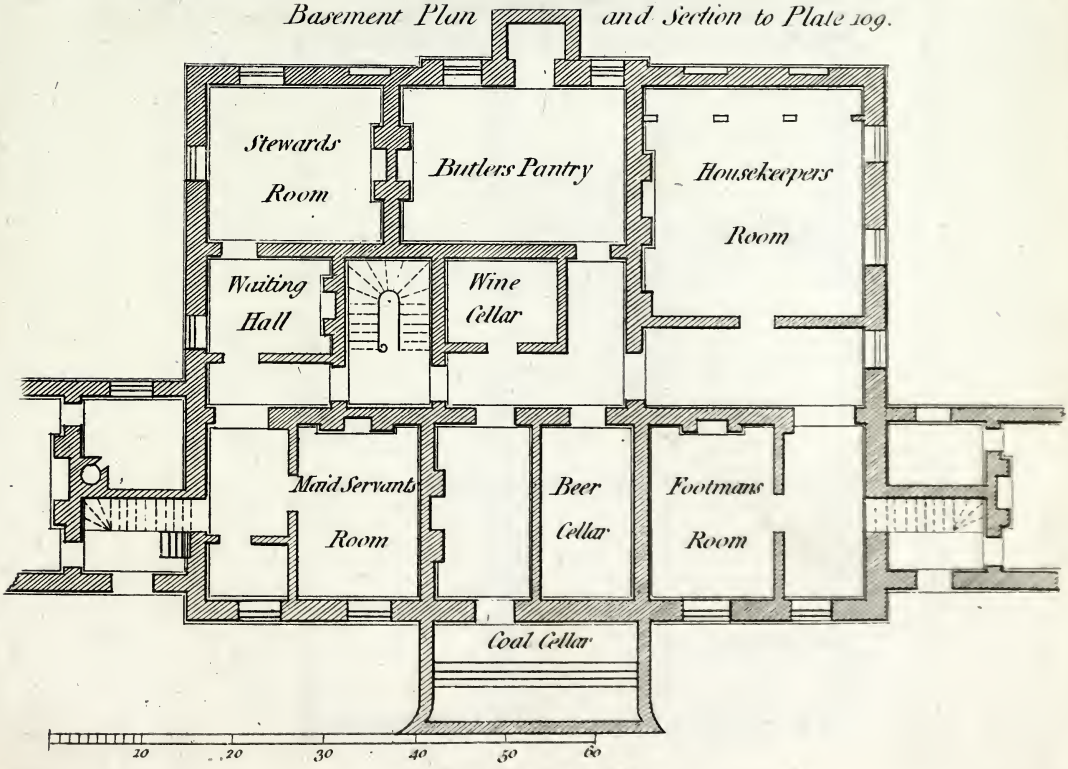
Plate 29.

Published May 1st 1791. by W. Pain.

*Plate no.*

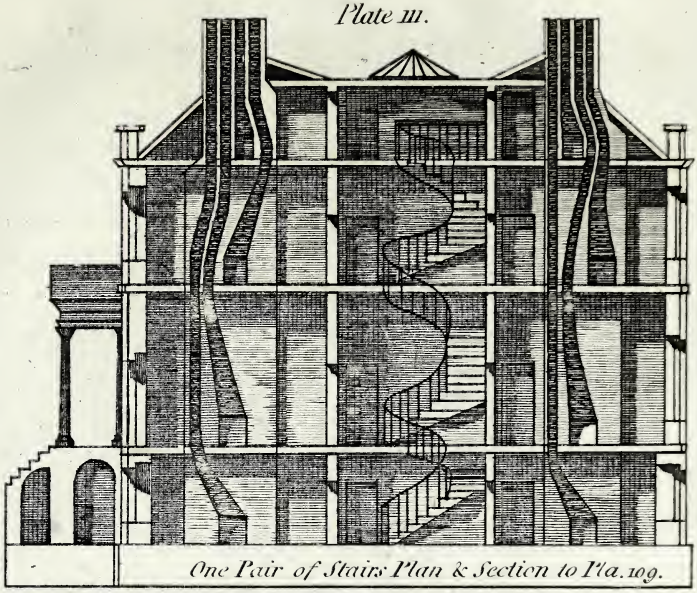



*Basement Plan and Section to Plate 109.*

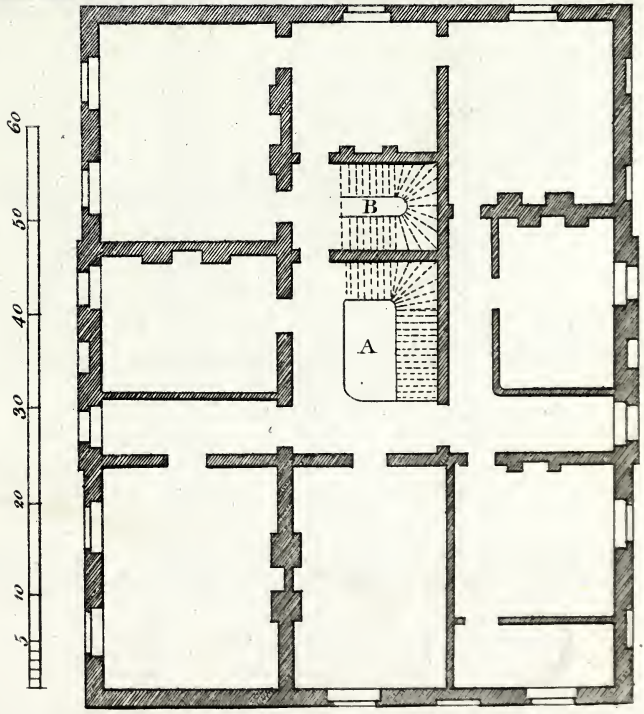


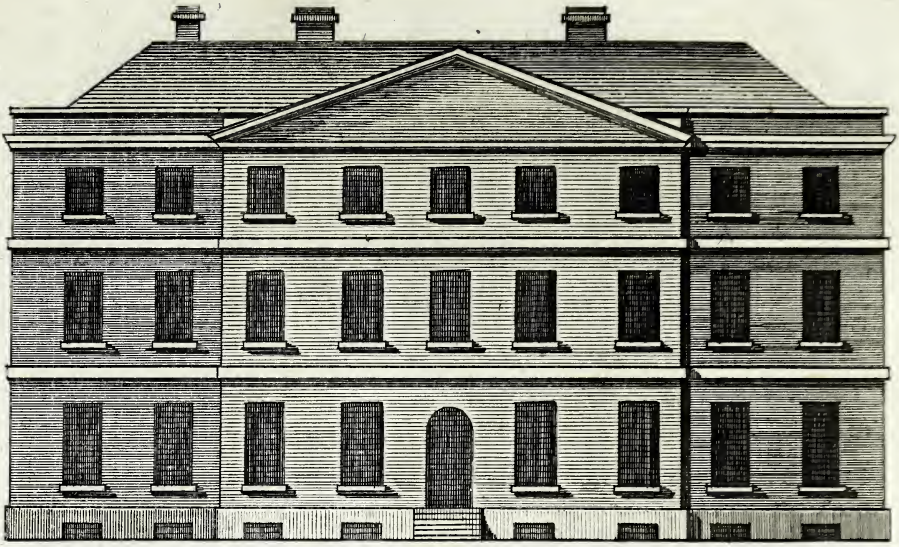

*Publish'd May 14 1792 by W. Pain.*

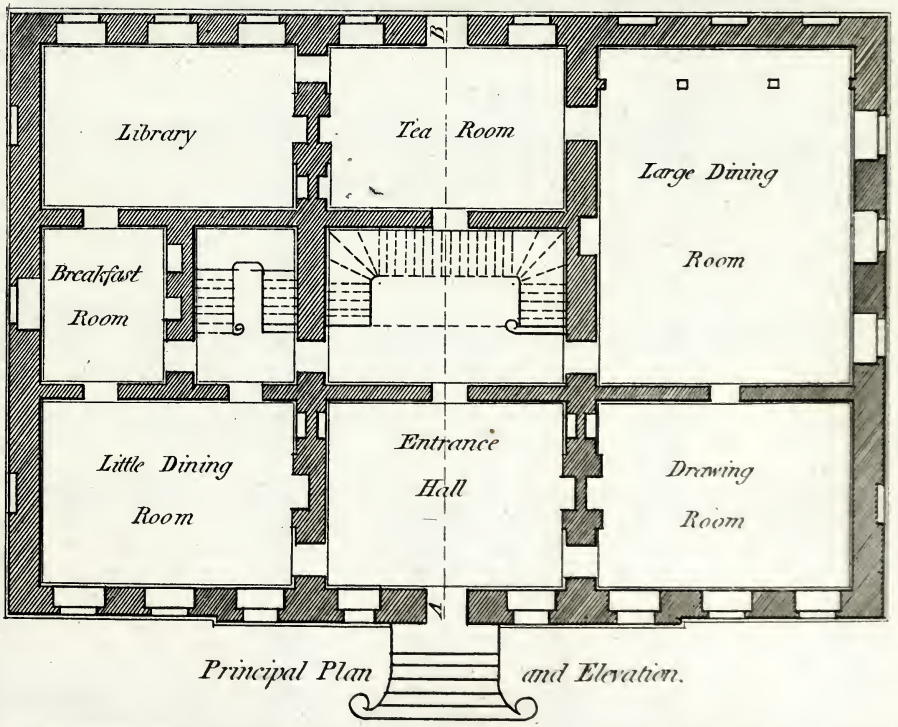
*Plate III.*



*One Pair of Stairs Plan & Section to Pla. 109.*



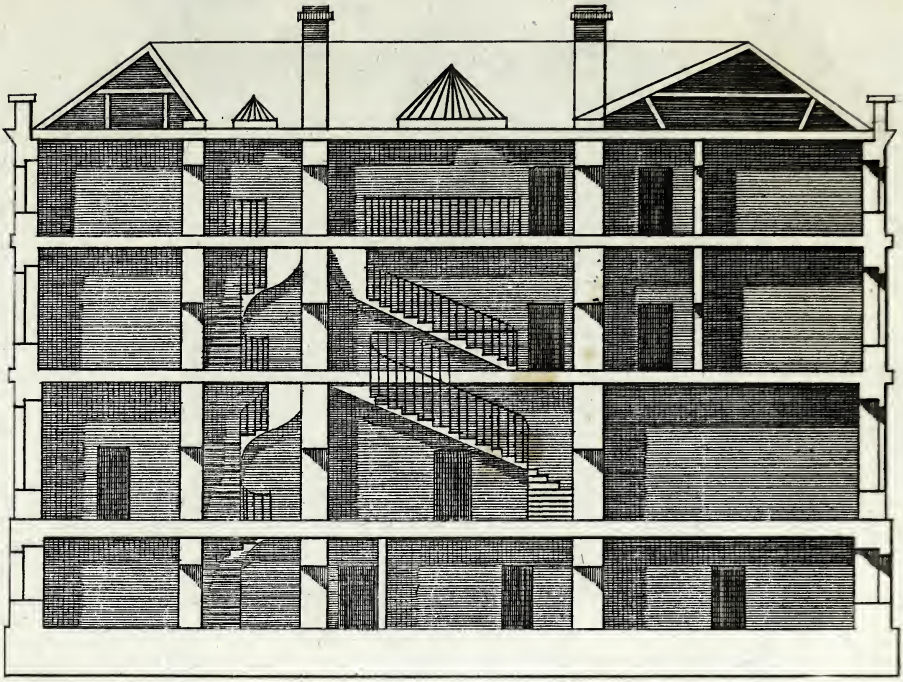




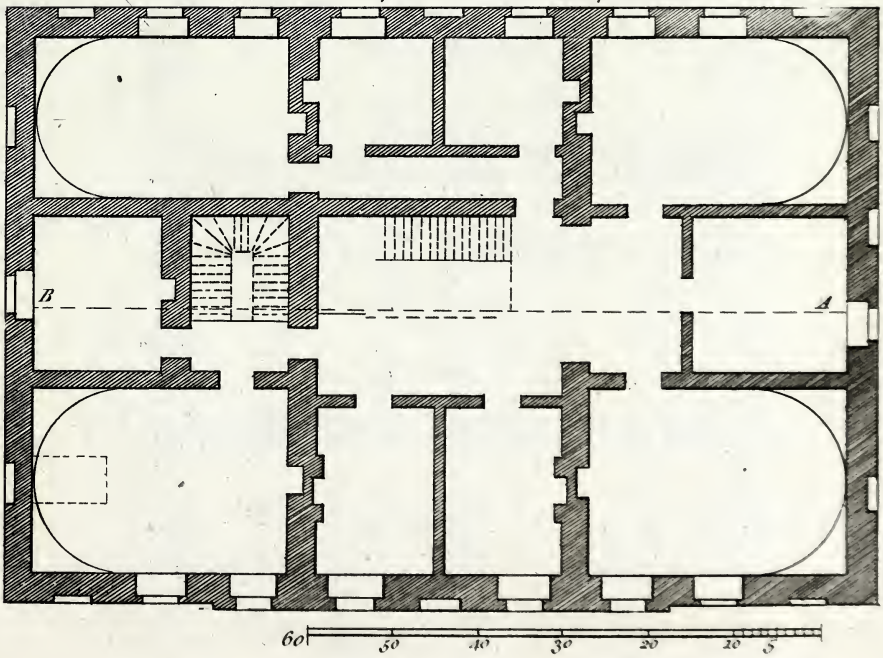

Principal Plan and Elevation.

5 10 20 30 40 50 60 70 80 90 100 Feet

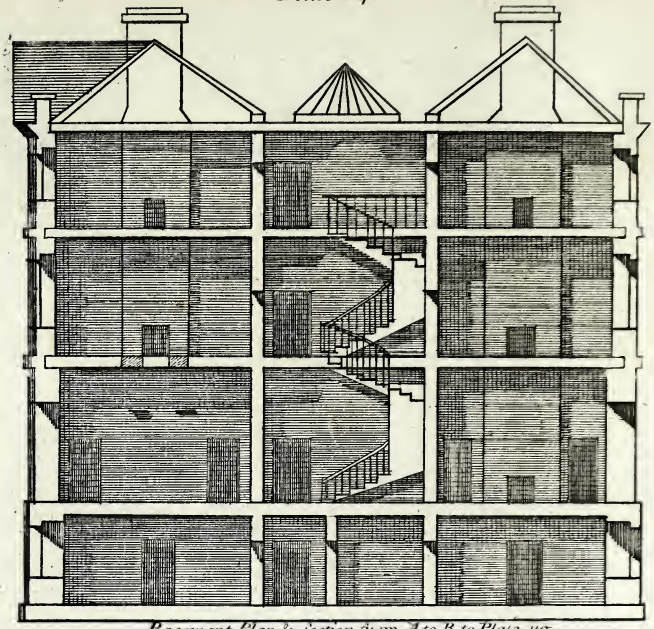
Published May 1.1792 by W. Pain.



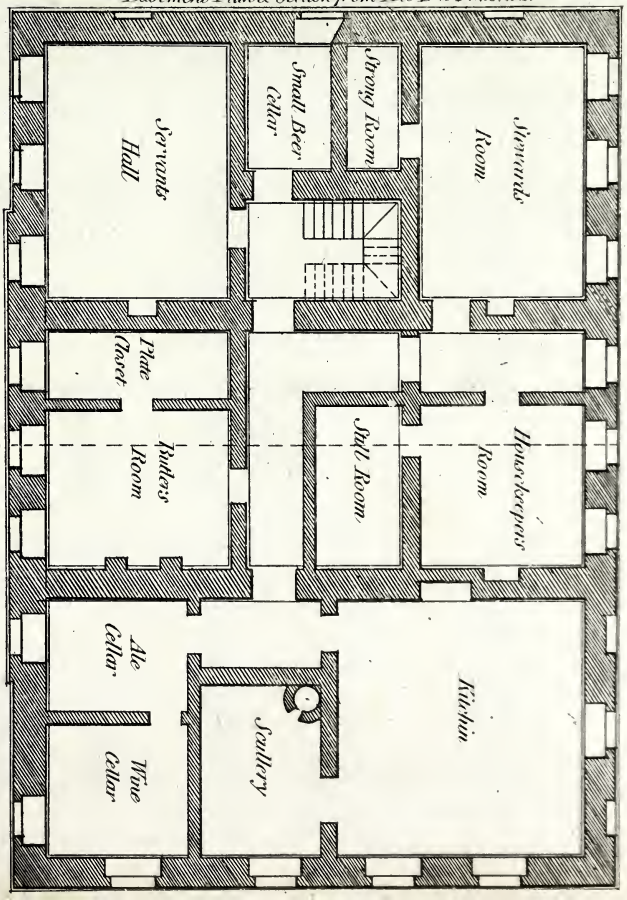
One Pair of Stairs Plan & Section from A to B. to Plate 112.

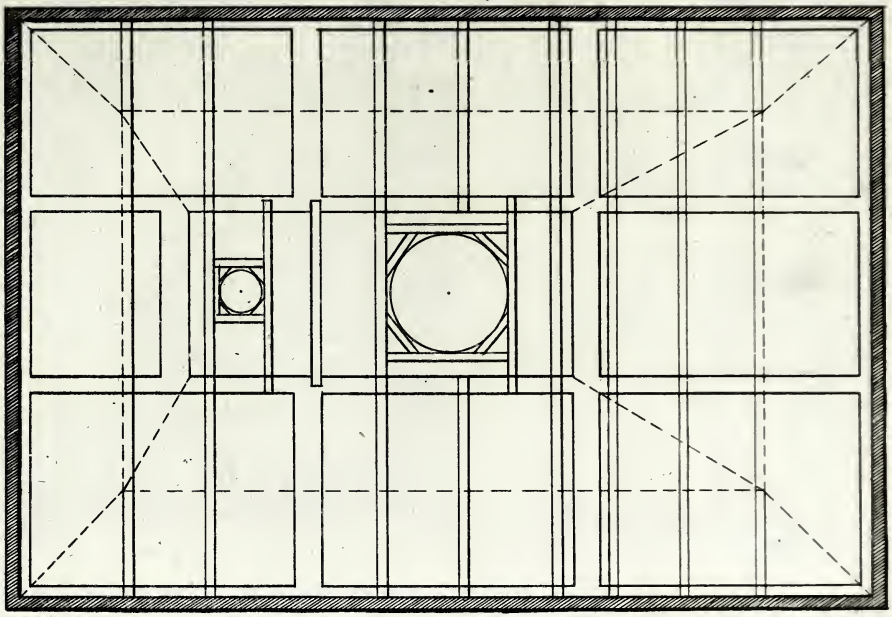



Published May 14 1701 by W Pain.

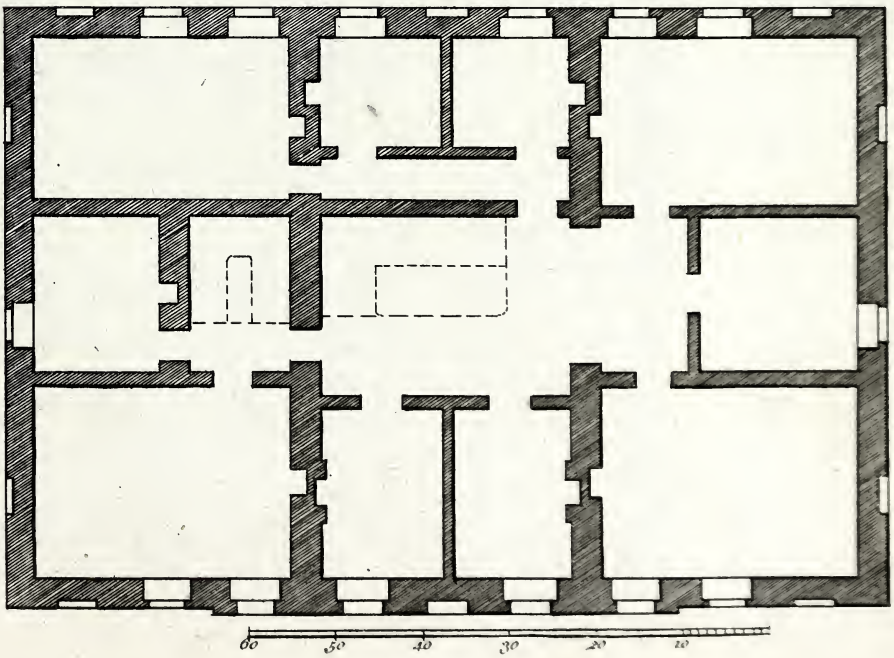


Basement Plan & Section from A to B to Plate. 112.

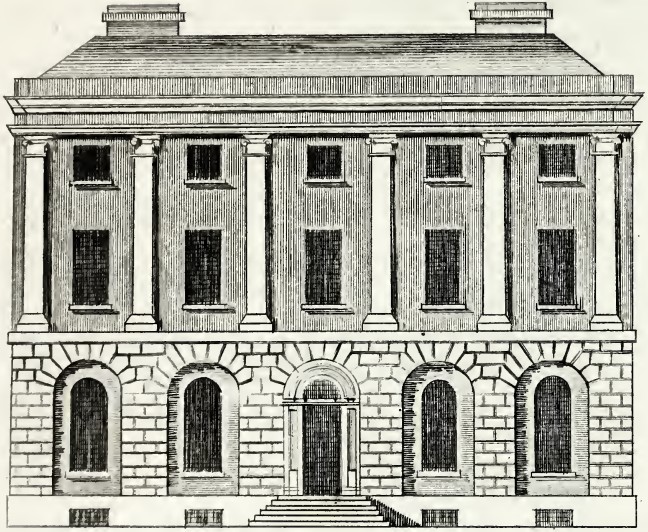




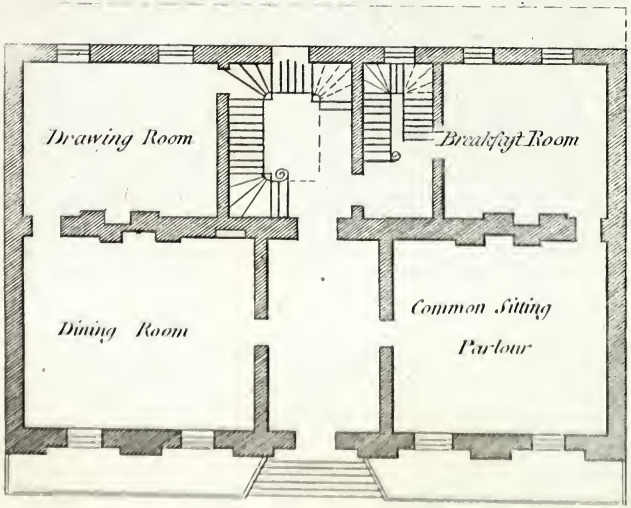
*Plan of the Roof, and Attic Floor. to Plate.112.*

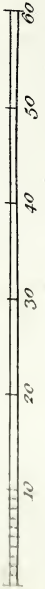



*Publish'd May 14, 1791 by W. Pain.*



Principal Plan and Elevation.



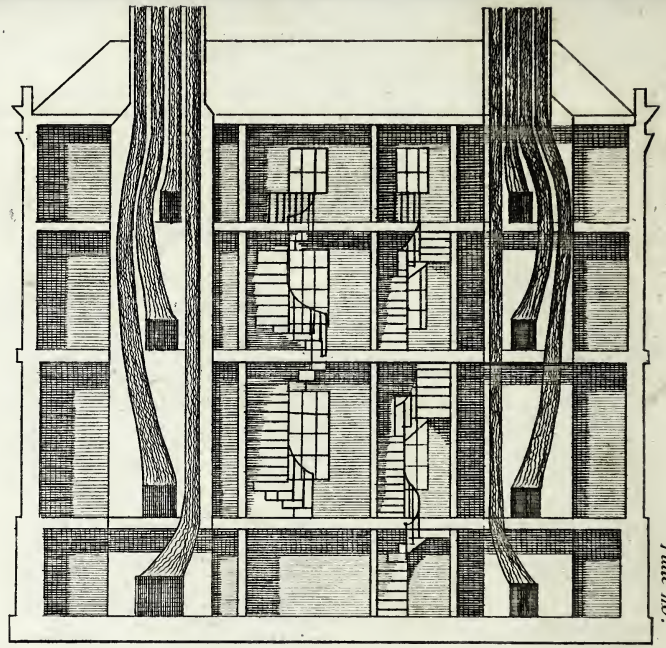
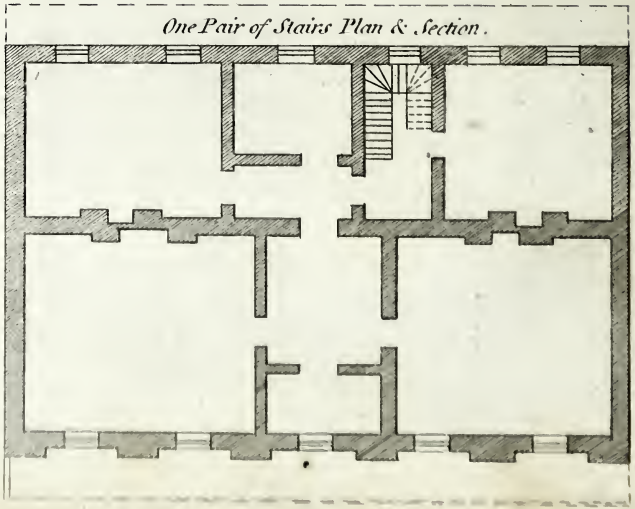
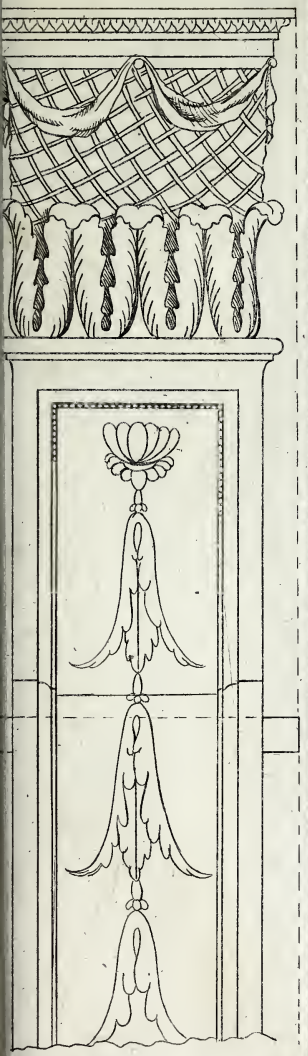



Plate 116.

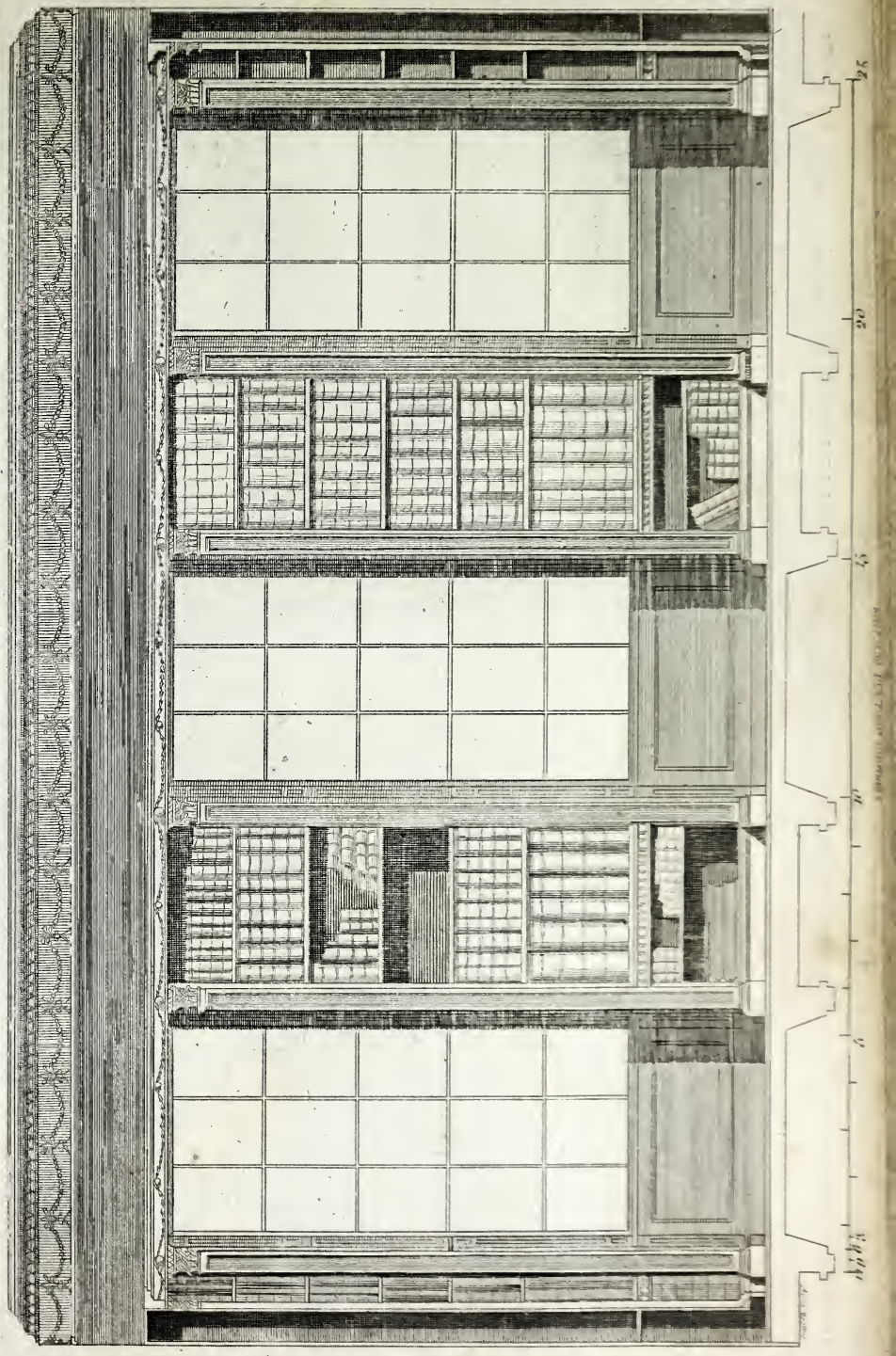
One Pair of Stairs Plan & Section.



Published May 14 1781 by W. Pain



Pilaster Quarter Size.



A *Surbase Mold quarter size*
B *Base Mold ditto*
C *Front Mold of Shelves to Bookcase*

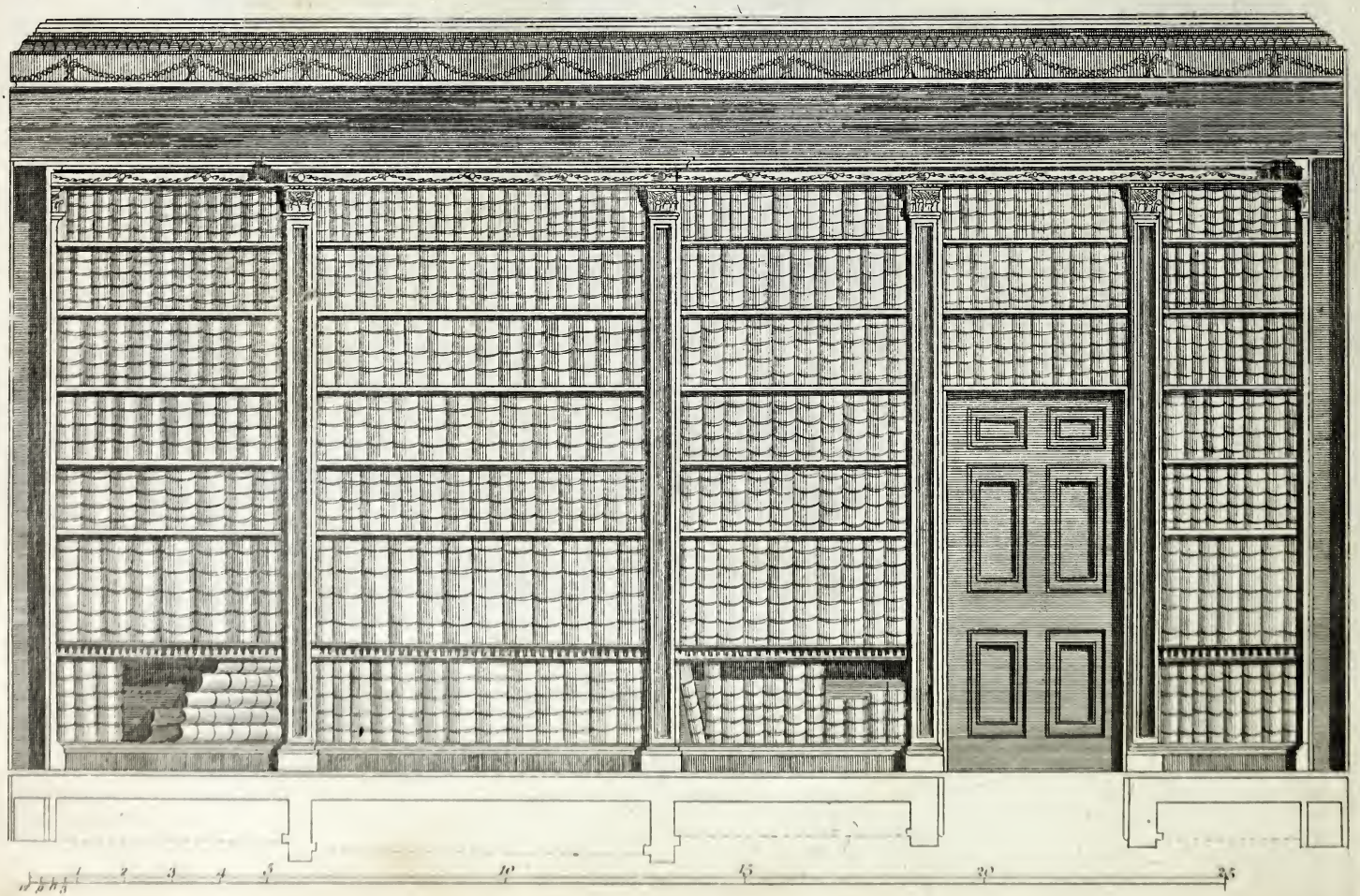
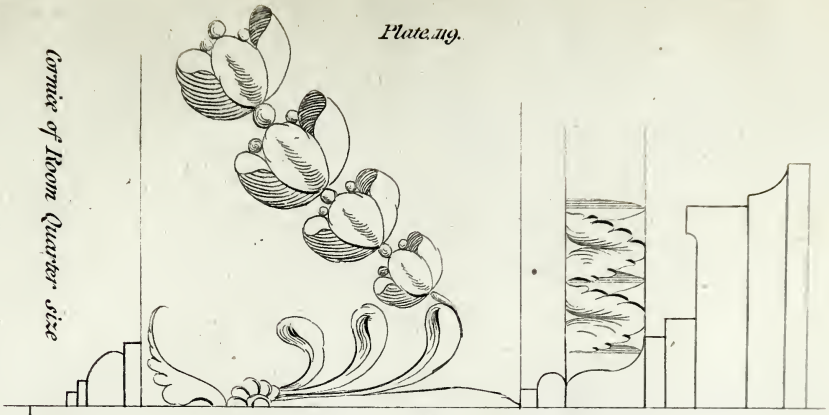
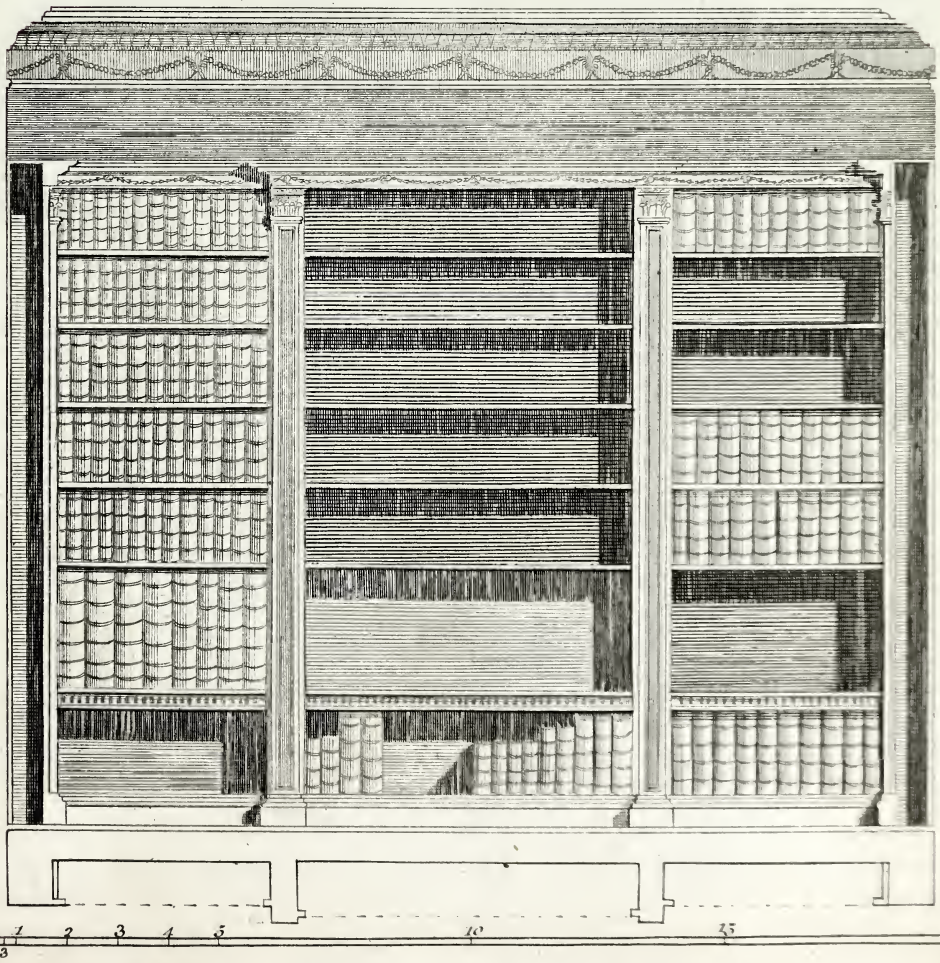


*Plate 18.*

Plate. 119.

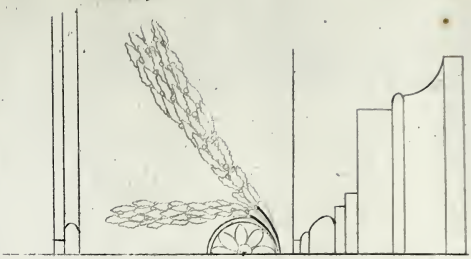
Cornice of Room Quarter size

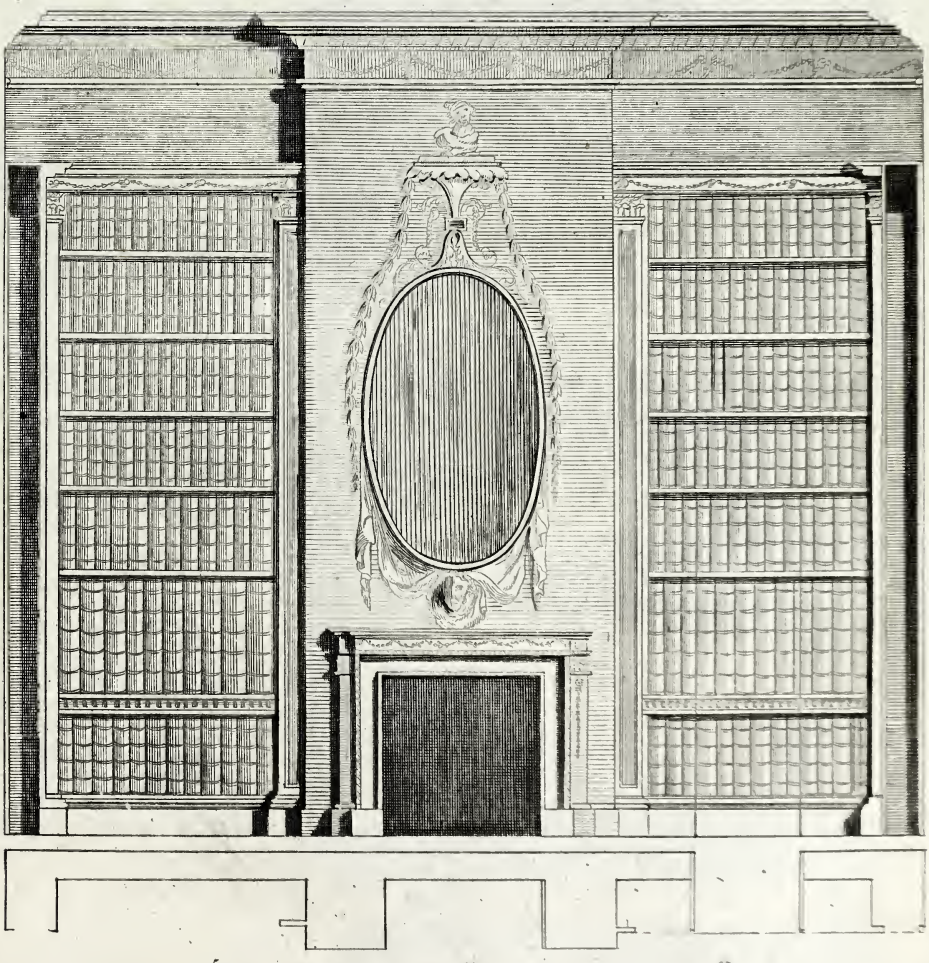





Published Nov.1st 1791 by W.Pain

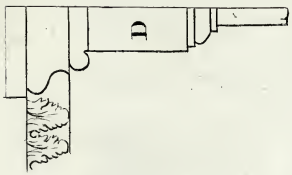
Plate 120.

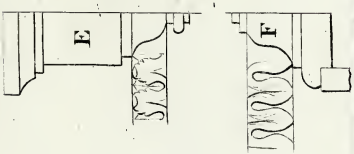


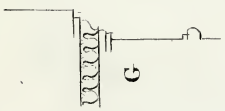



Published Nov.2 1720 by W.Pain.

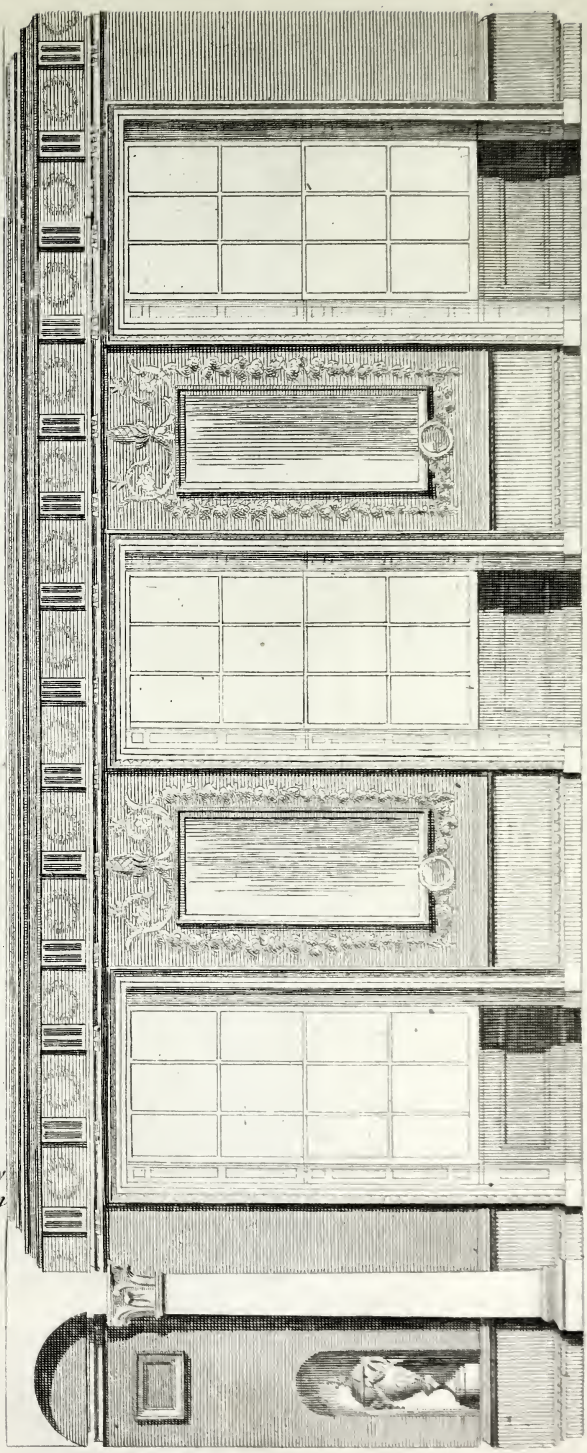
*Side Section to Dining room*



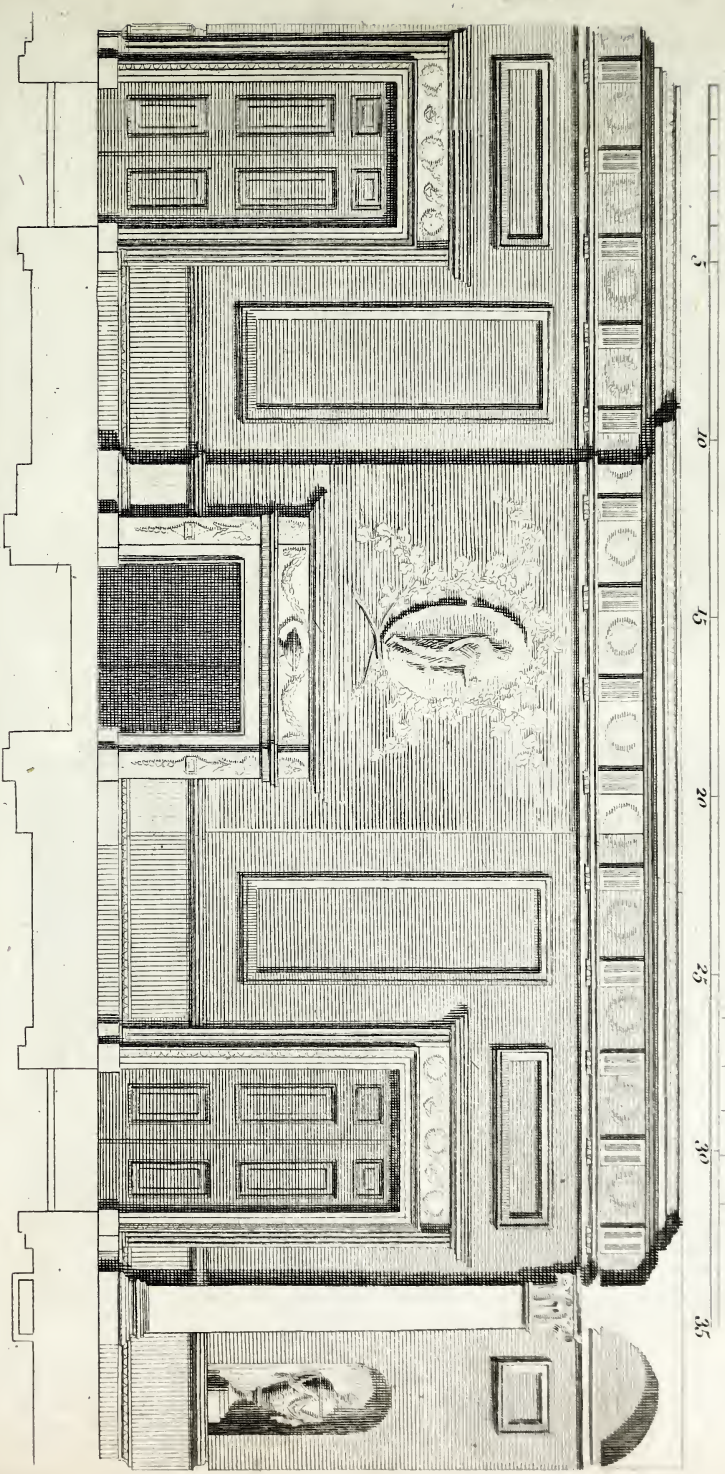




*Moulding Quarter Size*
D *the Architrave to door & window*
EF *Surbase & base molding to Room*
G *Molding on Shutters & Door*



*Published Dec.r 3. 1792 by W.m Pain*



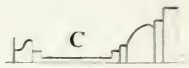

*Side Section of the Dining Room.*

*Moldings quarter Size*

A *Cornice for Door Cap & Chimney & sidepillaister for Doorway*

B *Architrave molding to Chimney*

C *Mold for the Frame on side wall*



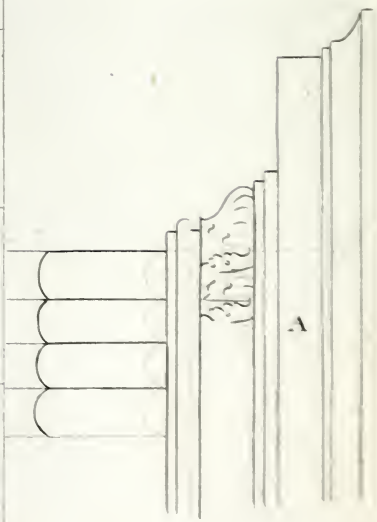
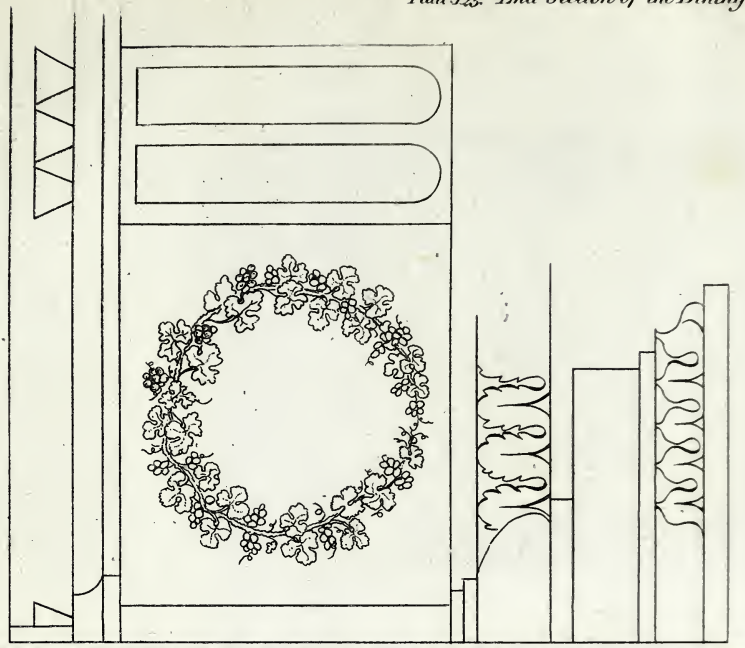
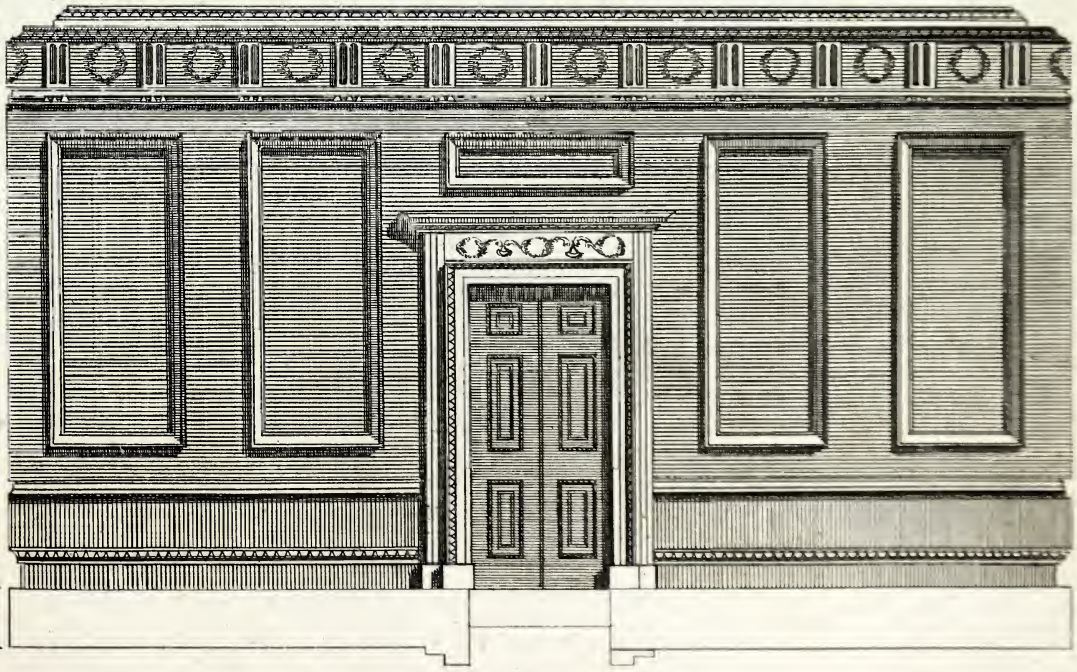


Plate 123. End Section of the Dining room



Cornice & Frize round the Room
Quarter Size



Published Dec.r 26.1791 by R. Pain

A *The Base of Column & Pillaster*
B *The Necking*
*Quarter Size*

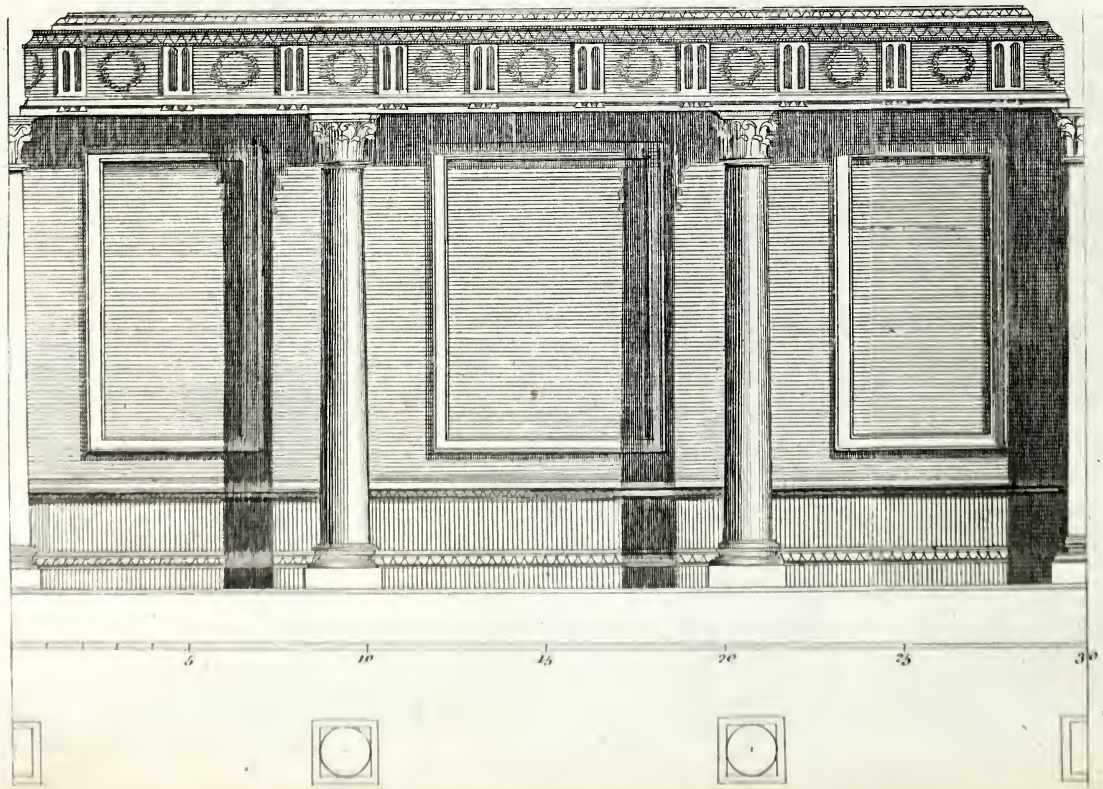
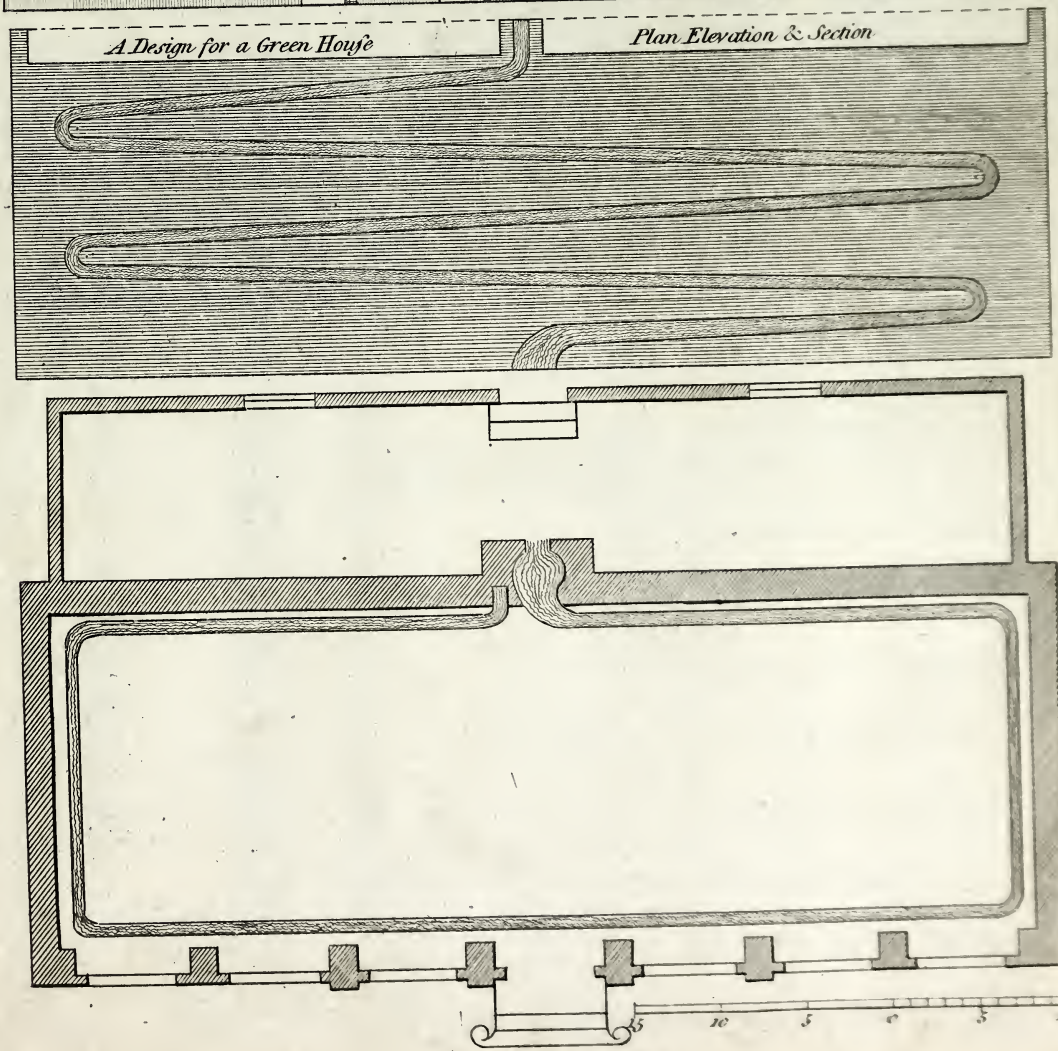



*Plate 24. End Section to Dining Room*

A Design for a Green House

Plan Elevation & Section

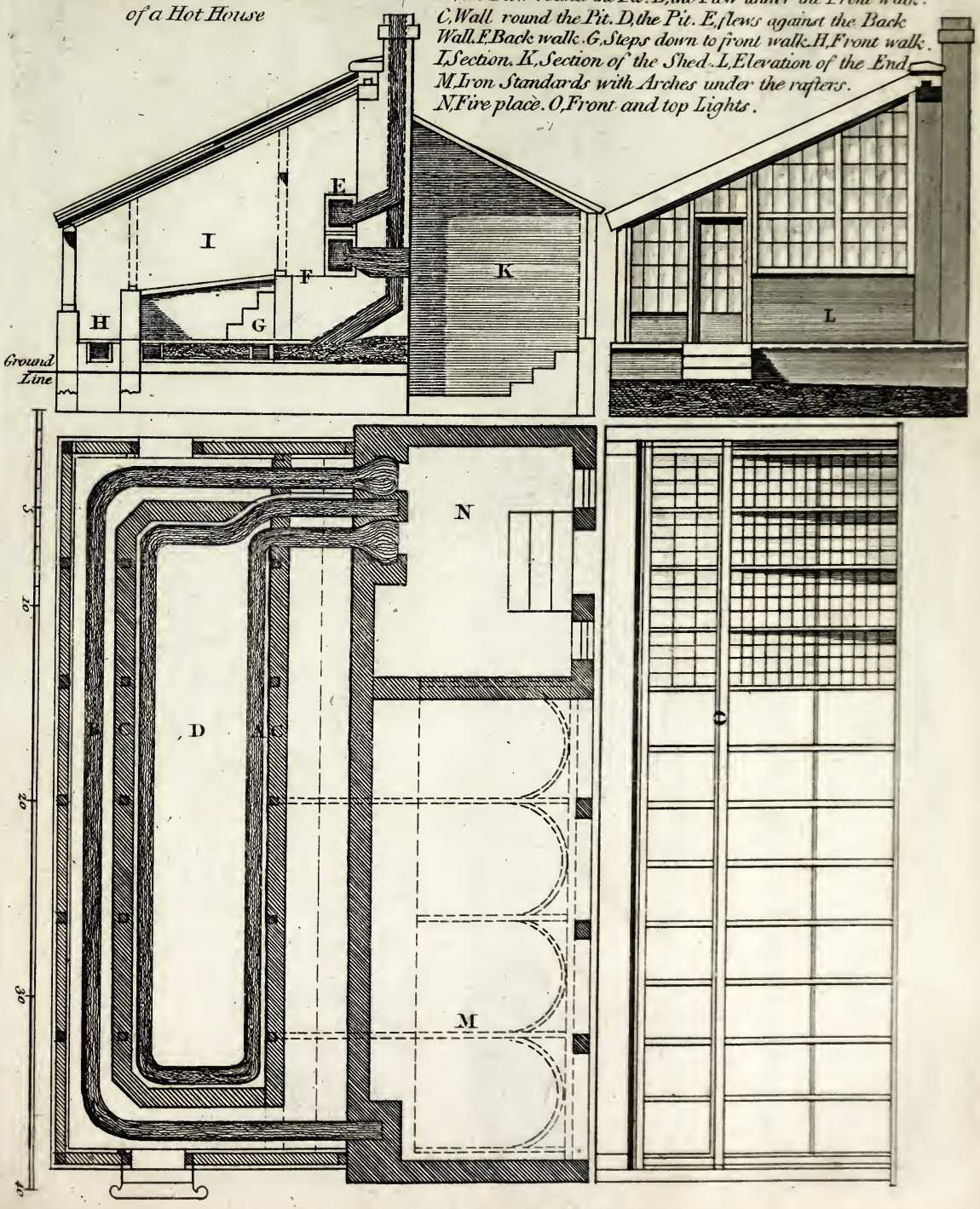



Published May 14. 1780 by W. Pain

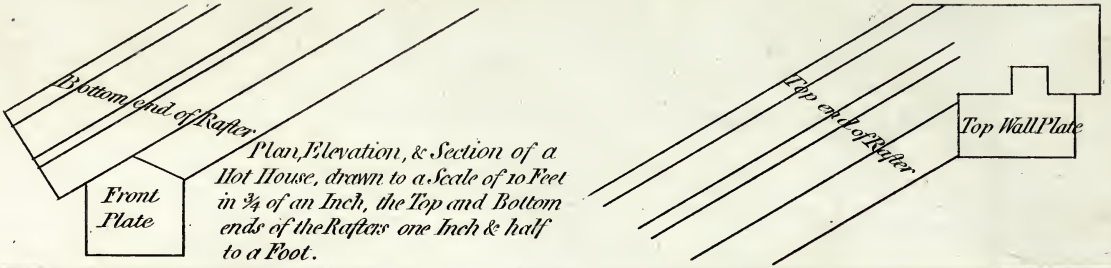
Plate 126.

## Plan, Elevation & Section of a Hot House

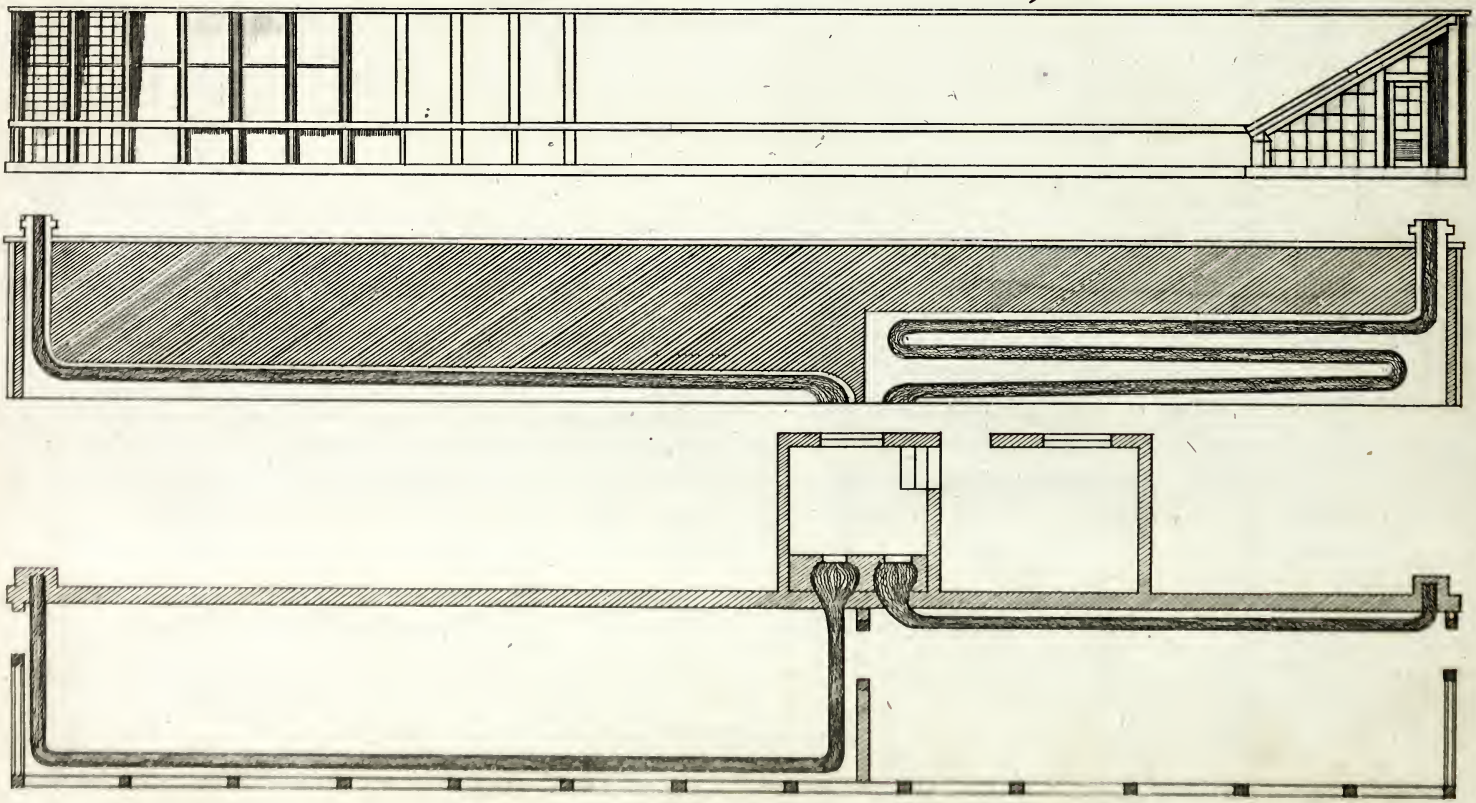
A, the Flew round the Pit. B, the Flew under the Front walk. C, Wall round the Pit. D, the Pit. E, flews against the Back Wall. F Back walk. G, Steps down to front walk. H, Front walk. I Section. K, Section of the Shed. L, Elevation of the End. M, Iron Standards with Arches under the rafters. N, Fire place. O, Front and top Lights.




Publish'd May 1.1791 by W. Pain

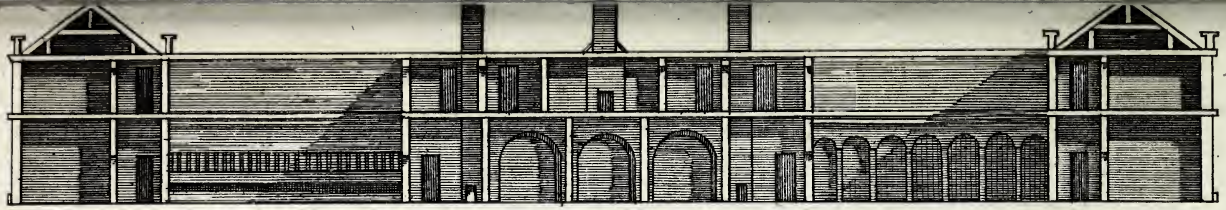


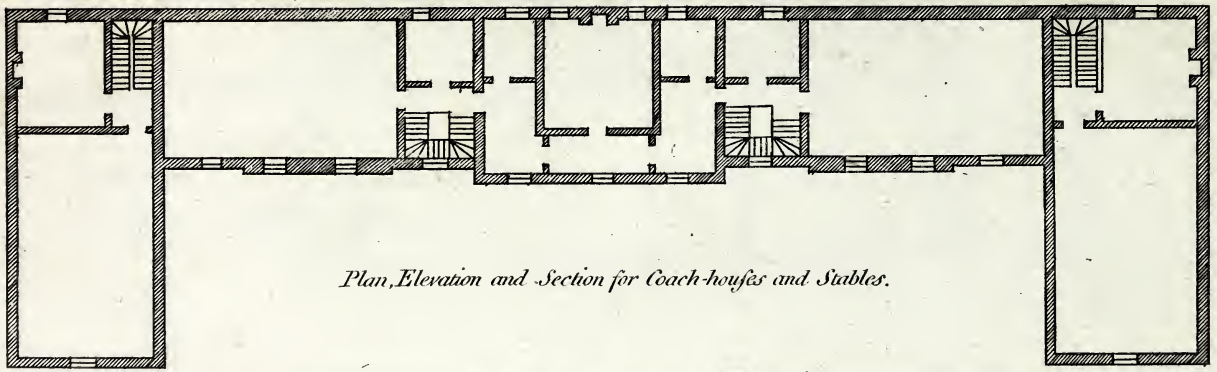

Plan, Elevation, & Section of a Hot House, drawn to a Scale of 10 Feet in ¾ of an Inch, the Top and Bottom ends of the Rafters one Inch & half to a Foot.



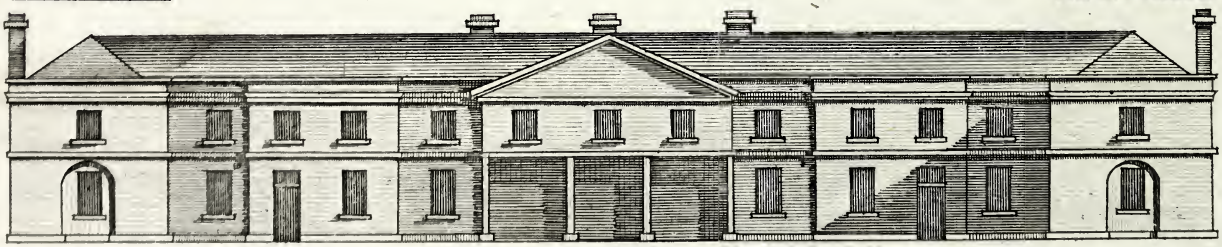
Published May 14 1792 by W. Pearce

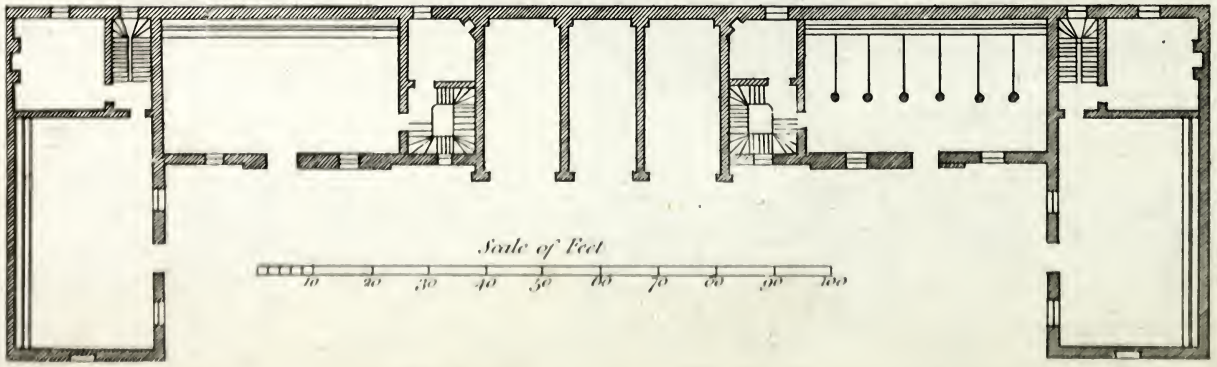
Plate 127.





*Plan, Elevation and Section for Coach-houses and Stables.*





*Scale of Feet*

10 20 30 40 50 60 70 80 90 100

*Section of Rack and Manger as figured for practice*

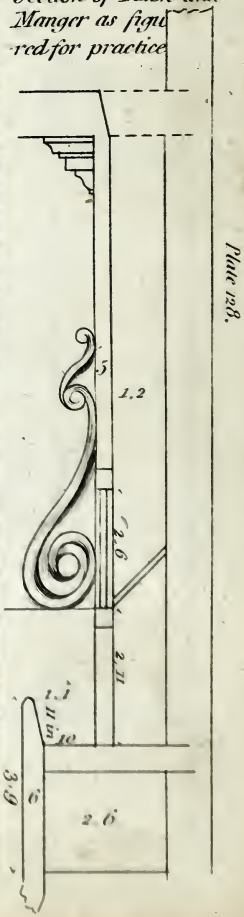
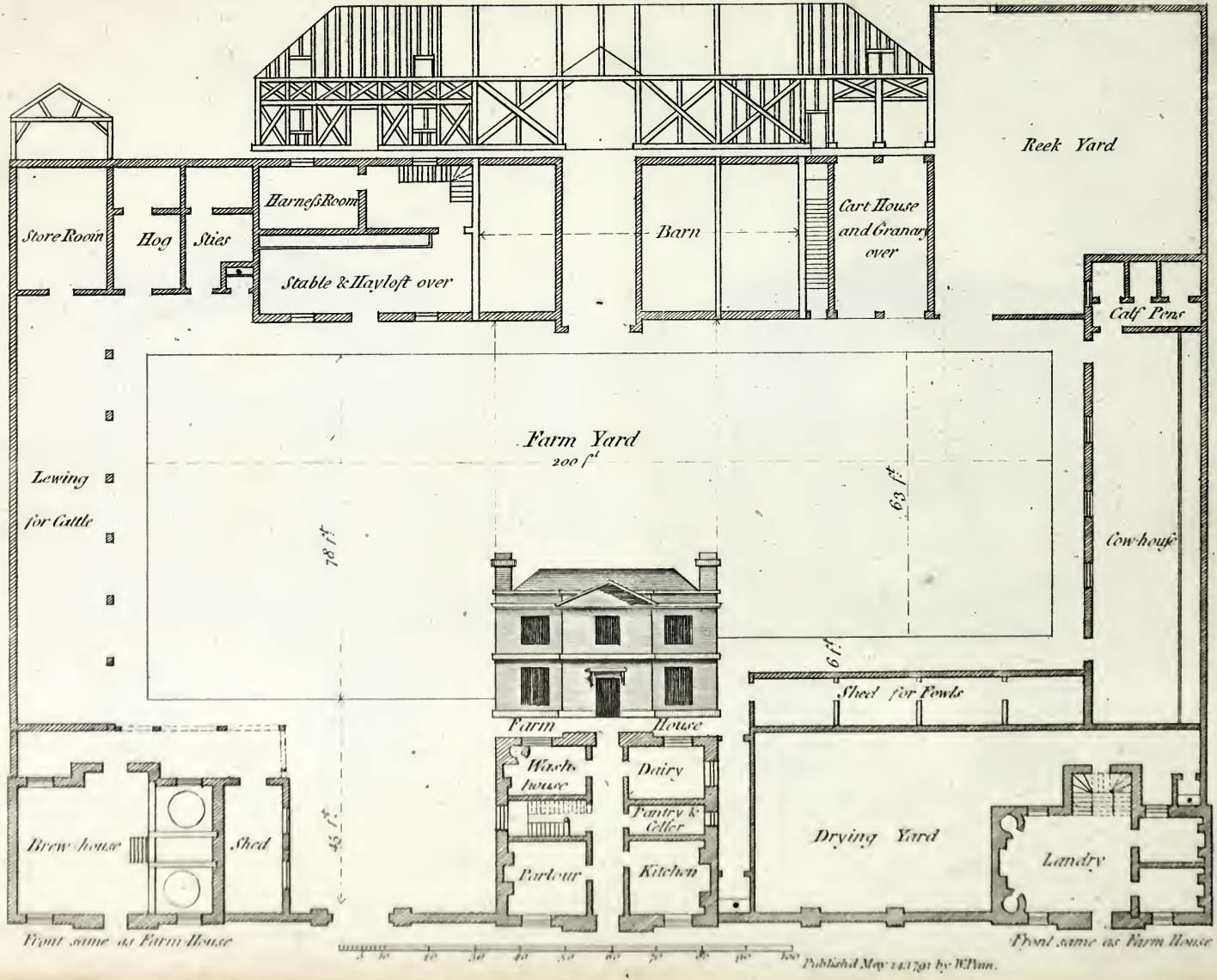



*Plate 128.*

*Published May 1.1791 by W. Penn.*


Reek Yard
Store Room
Hog Sties
Harness Room
Stable & Hayloft over
Barn
Cart House and Granary over
Calf Pens
Farm Yard
200 f.
Lewing for Cattle
68 f.
63 f.
Cow-house
19 f.
Shed for Fowls
Farm House
Wash house
Dairy
Pantry & Celler
Parlour
Kitchen
Drying Yard
Landry
Brew house
Shed
45 f.
Front same as Farm House
Front same as Farm House
Plate 29.
Published May 14 1791 by W. Pain.

# A Design for a Gateway to a Noblemans or Gentlemans-house.

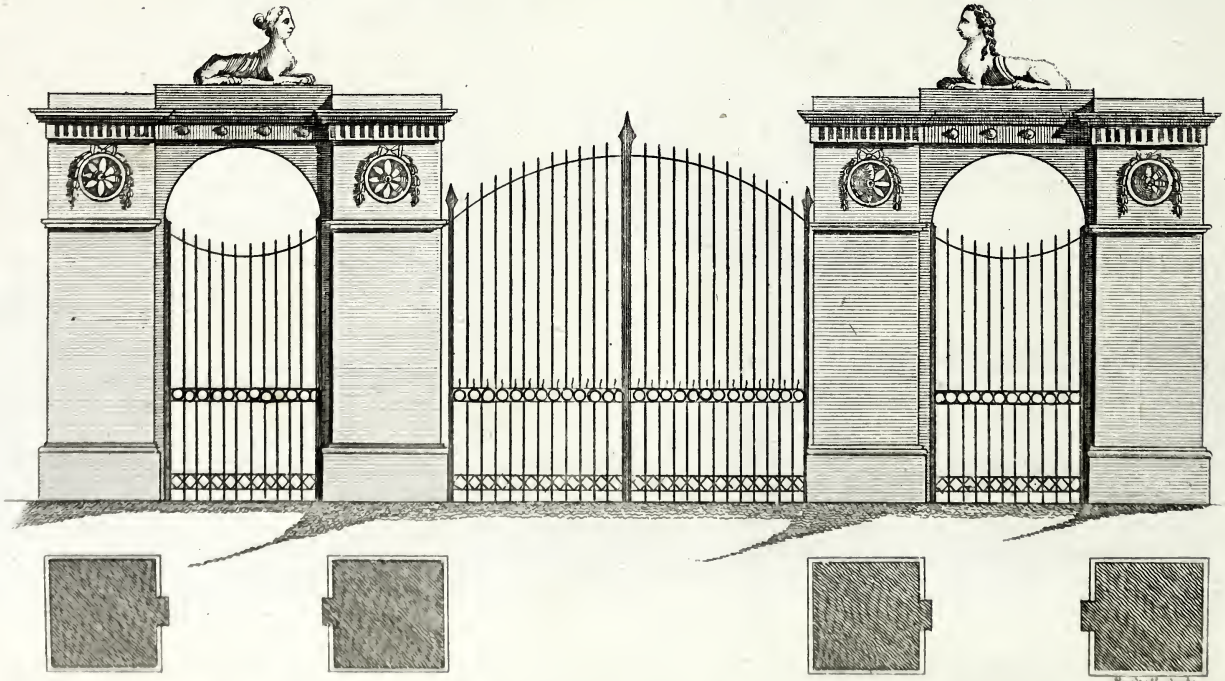
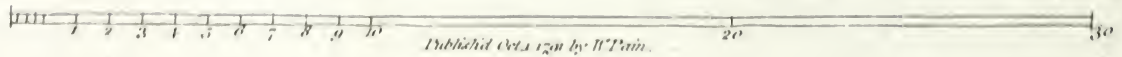


Plate 130



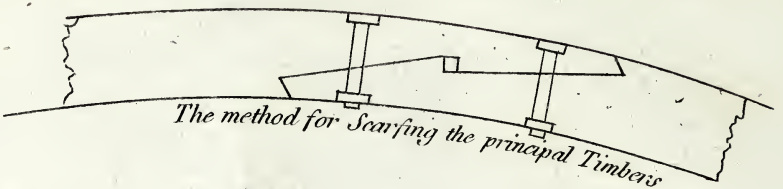

Published Oct.1 1781 by W. Pain.

*A Design for a Gateway to a Noblemans or Gentlemans-house.*

0 5 10 20 30

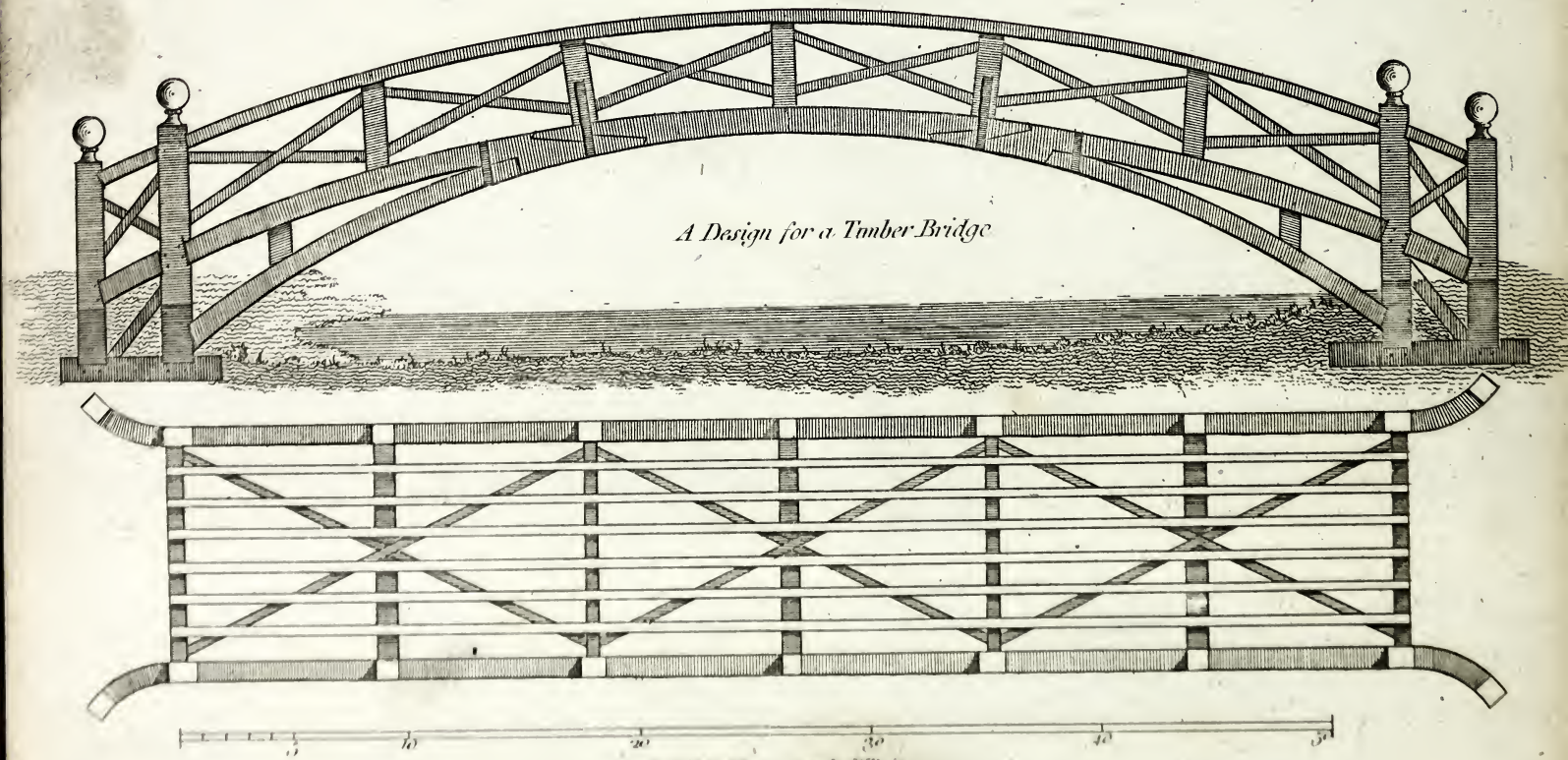
*Publish'd Oct.1.1780 by W.Pain*

Plate 31.



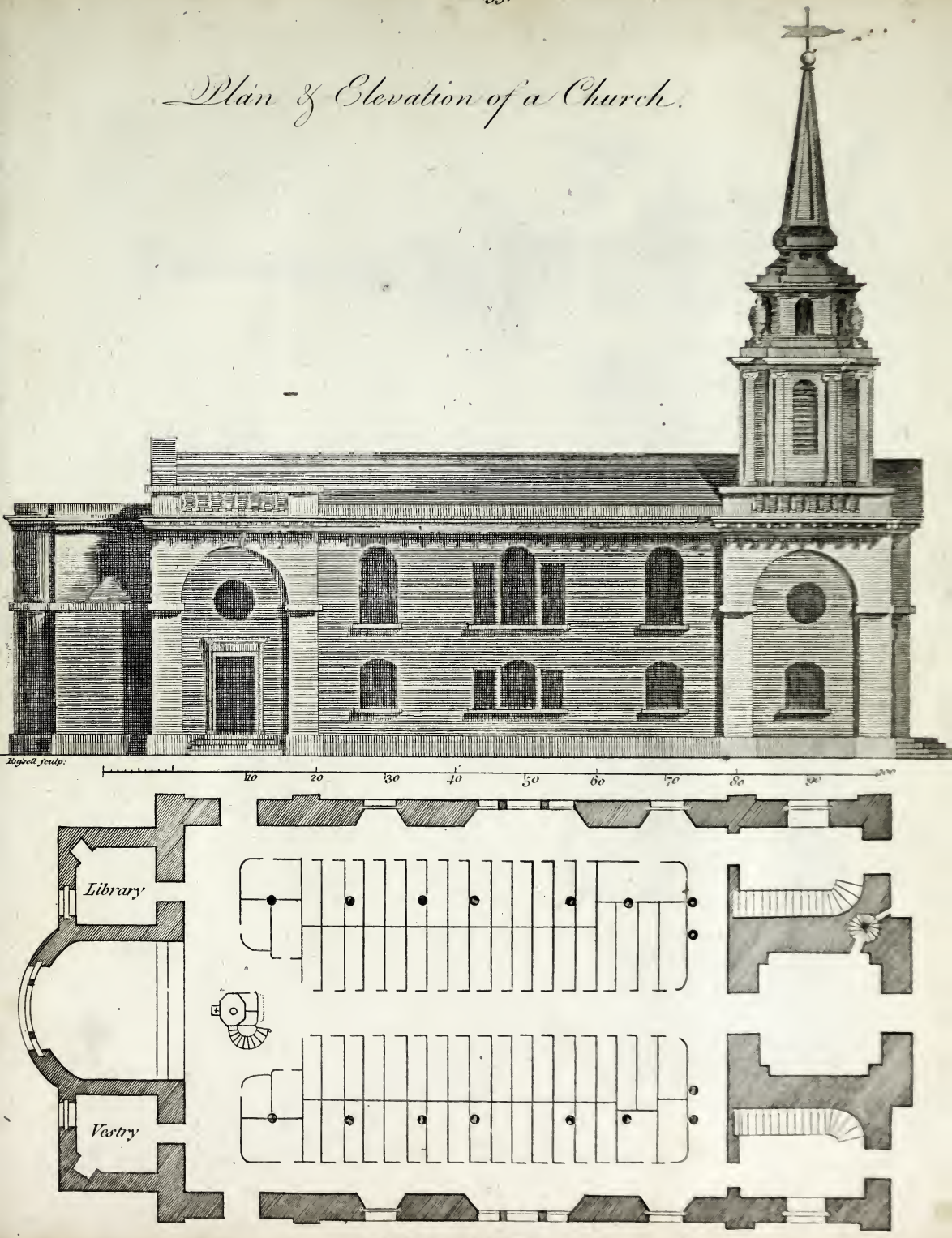
*The method for Scarfing the principal Timbers*

*A Design for a Timber Bridge*




*Published May 14 1750 by W Tuin*

# Plan & Elevation of a Church.




Published Oct. 1.1792 by W. Pain.

Plate 34.

Section from East to West.

Published as the Act directs by W. Pain 1 Oct. 1790.

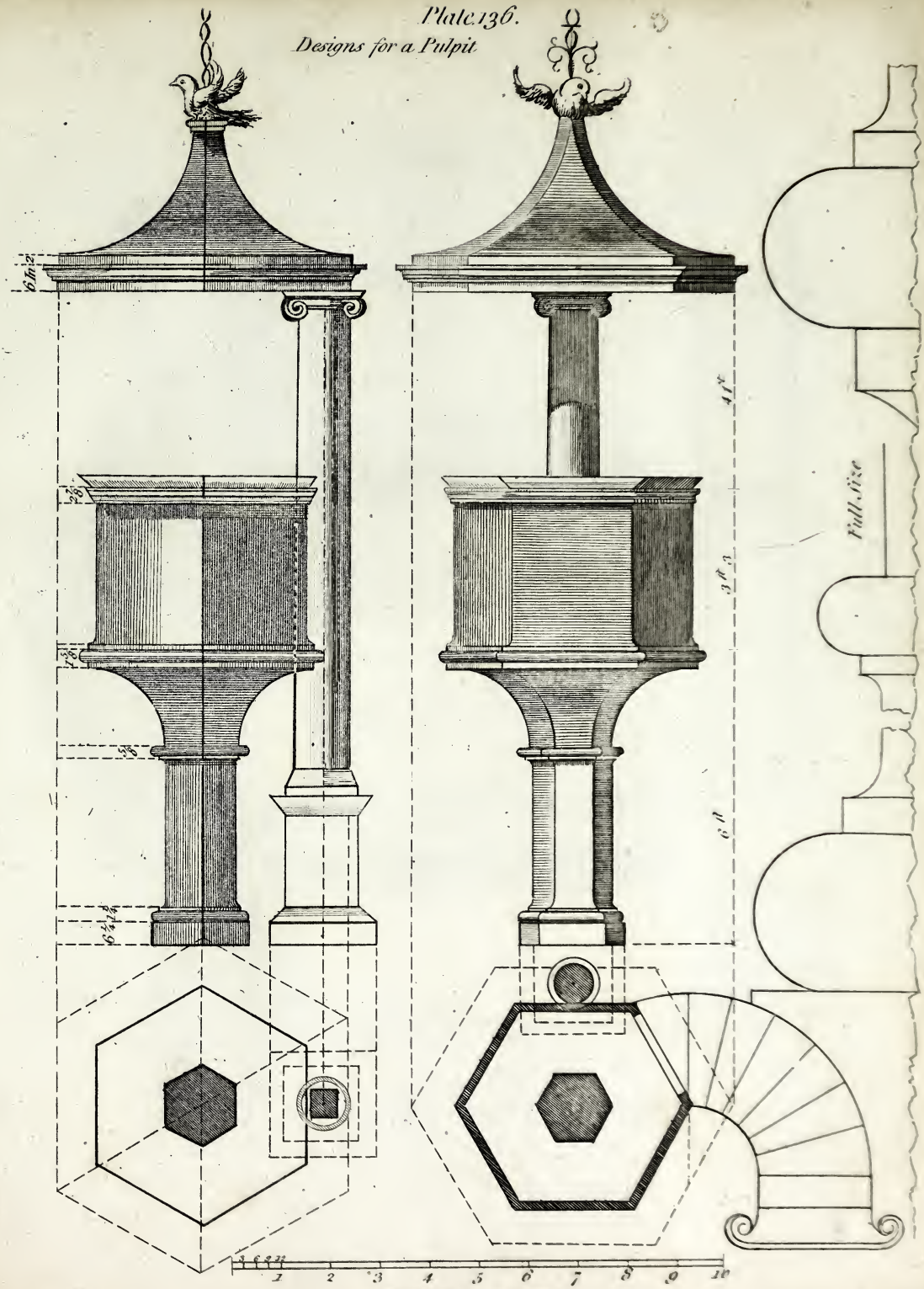
*Plate 135.*

Russell sculp.

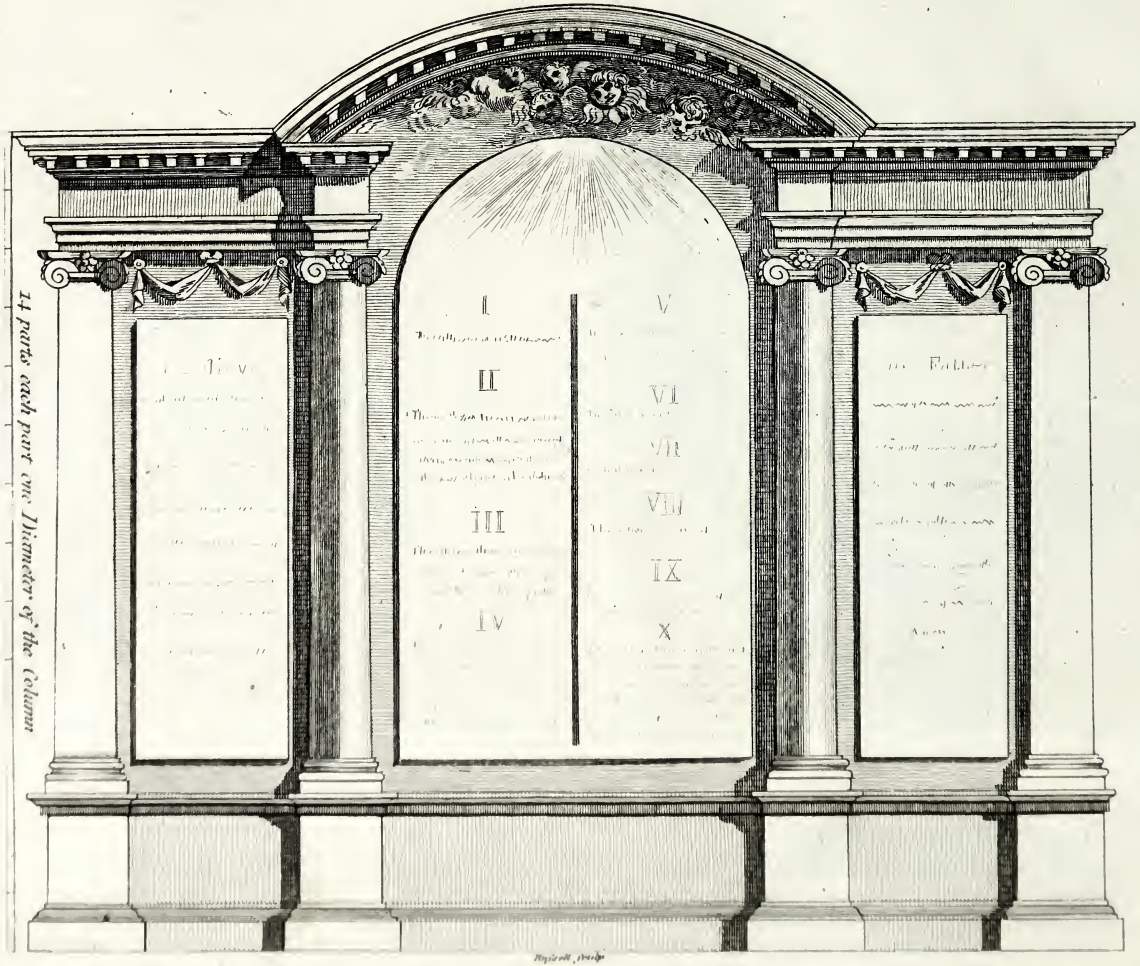
*Published Oct. 1. 1791 by W. Pain*

*Plate 136.*

*Designs for a Pulpit*

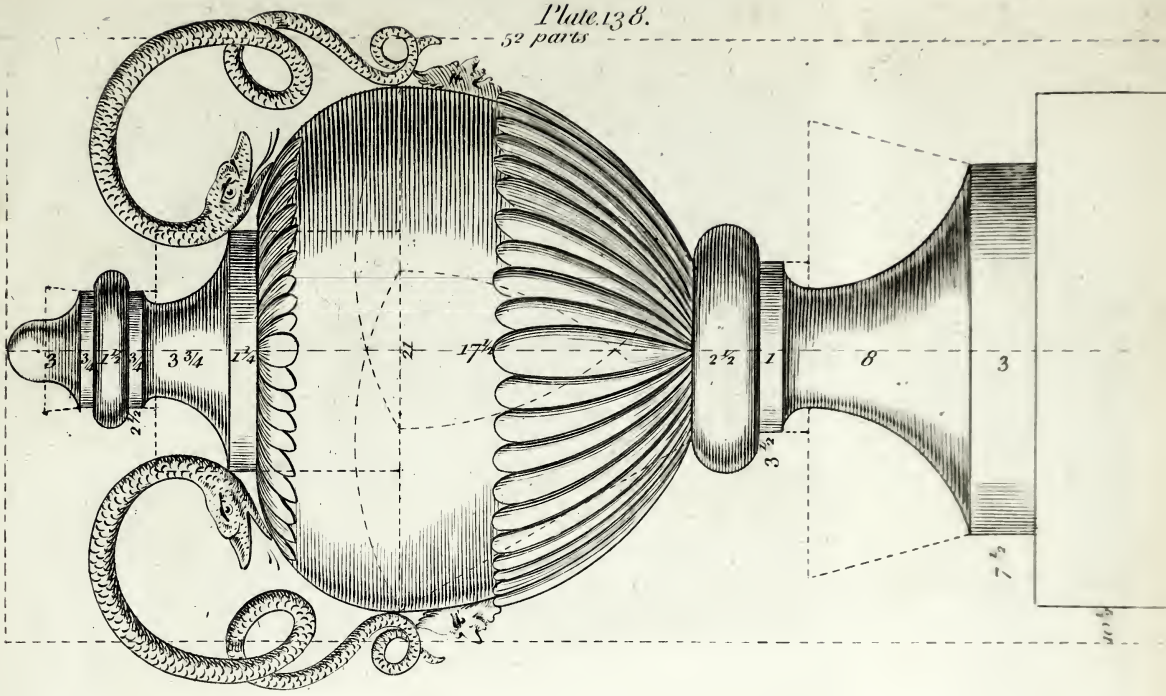



Published May 1 1792 by W. Pain




Published Sept 21 1791 by W Pain

*Plate 138.*


52 parts
3
3
1 1/2
3/4
3 3/4
2 1/4
21
17 1/4
2 1/2
1
8
3
2 1/2
3 1/2
7 1/2

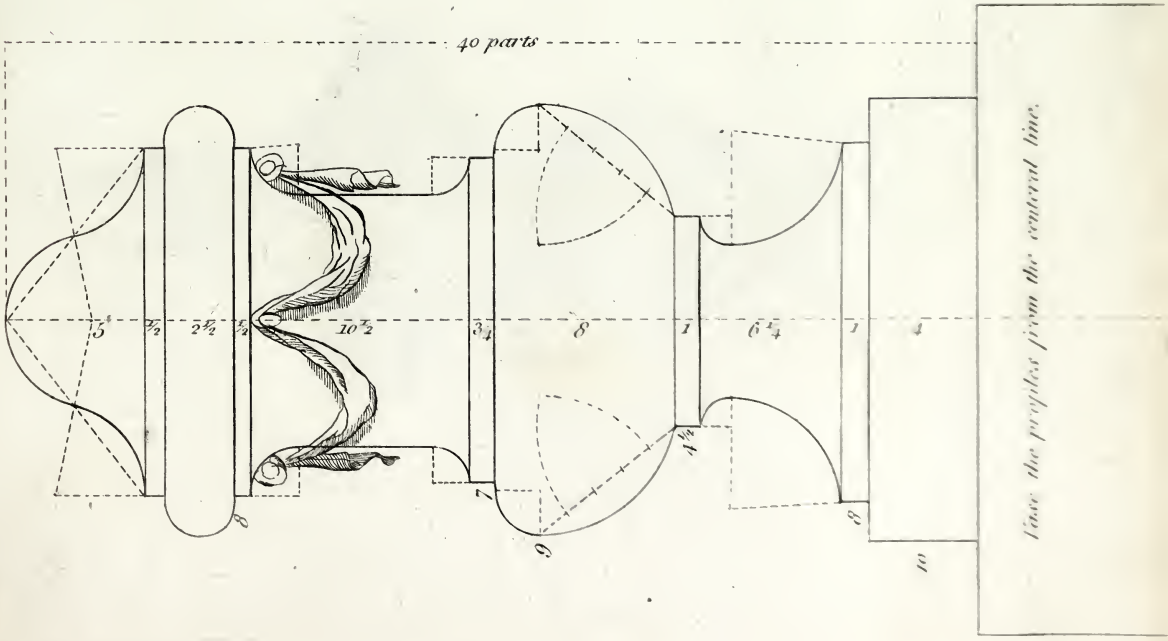
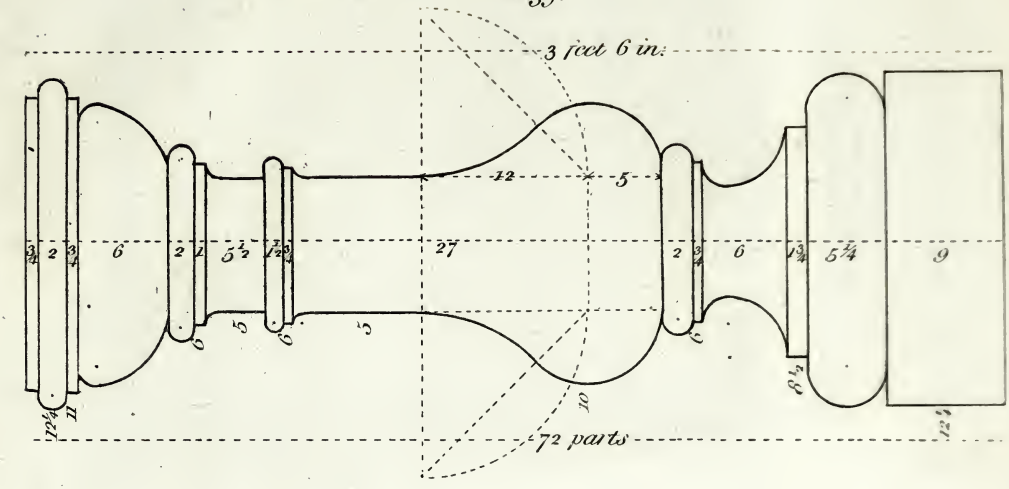
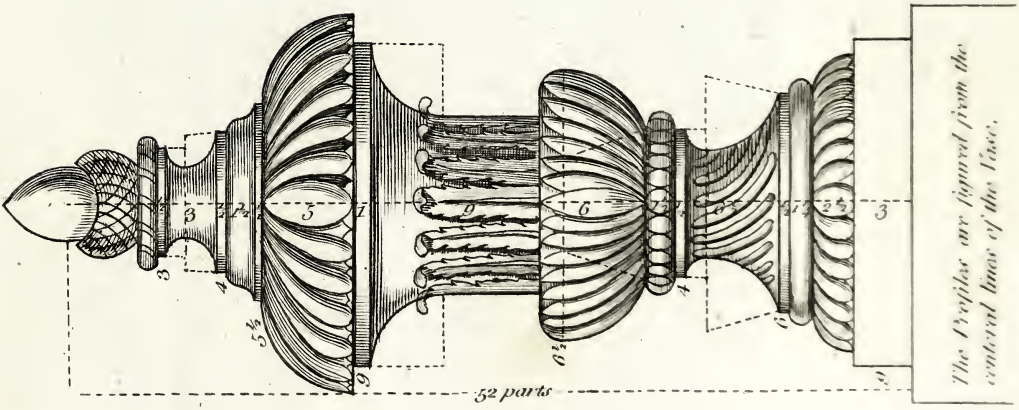

40 parts
5
1/2
2 1/2
1/2
10 1/2
3/4
8
1
6 1/4
1
1
1 1/4
8
7
9
8
10
Case the pieples from the centred line.

*Plate 139.*



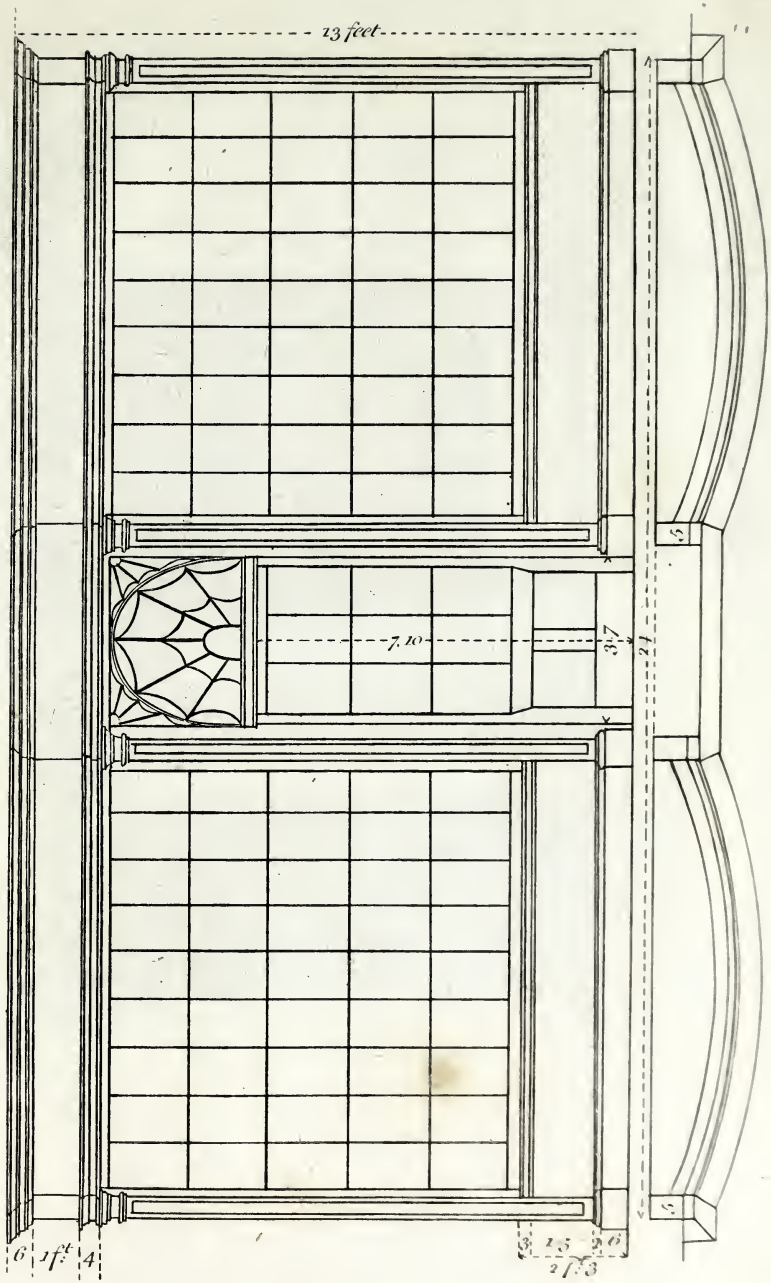

*Pedestal for Sun-dials, the projections are from the Central line.*




*The Pedestal are figured from the central lines of the Vase.*

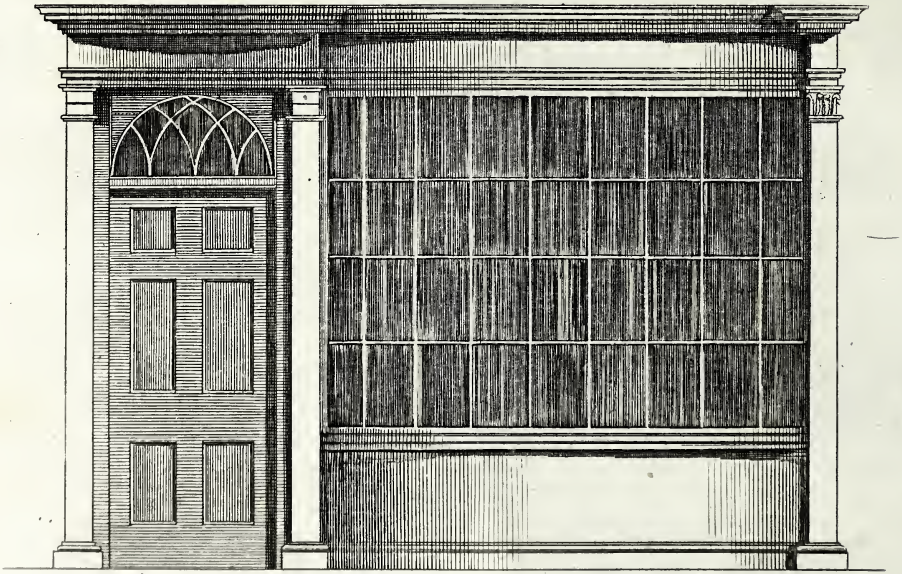
*Published Oct.r 1820 by W.m Pyne.*

*Plate 140*




*Design for a Shop Front*

# *Shop Front*

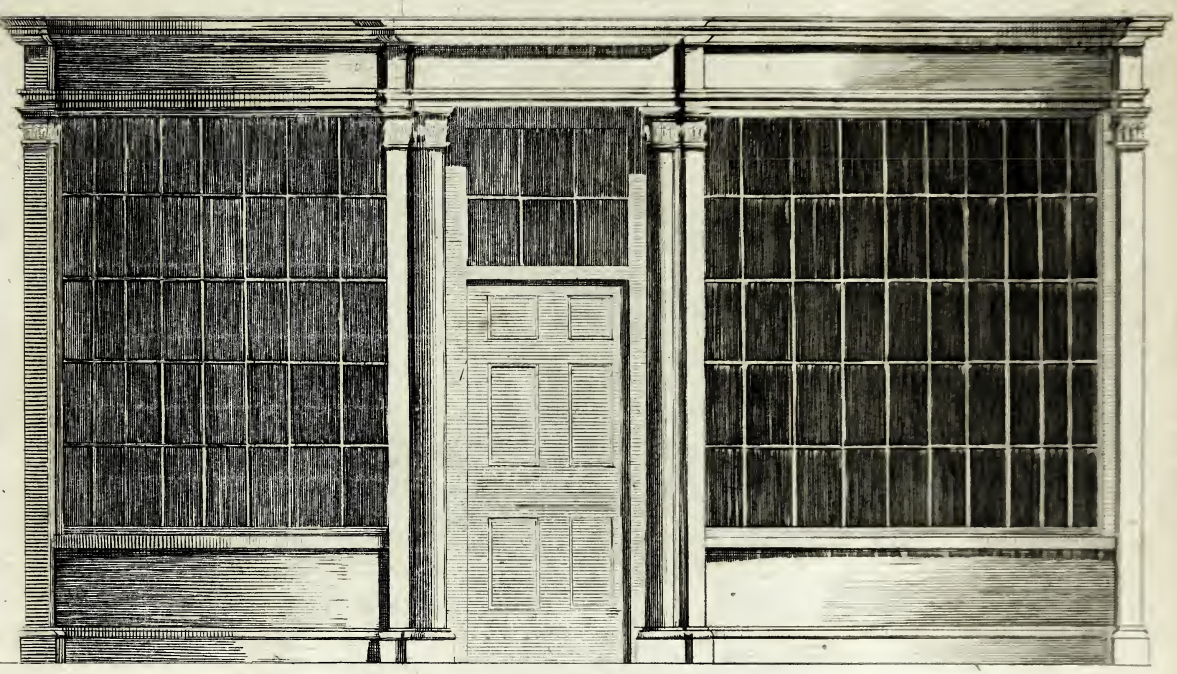


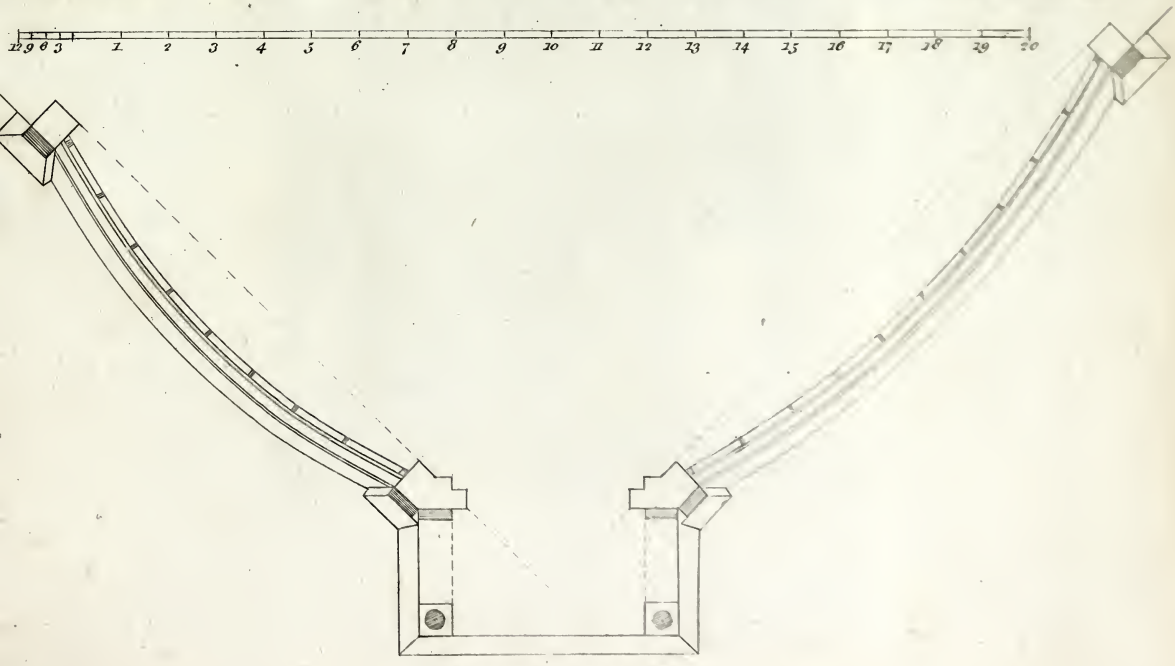
*Published Oct.r 1.1781 by W.Pain*

Plate XII.

*Plate. 142.*

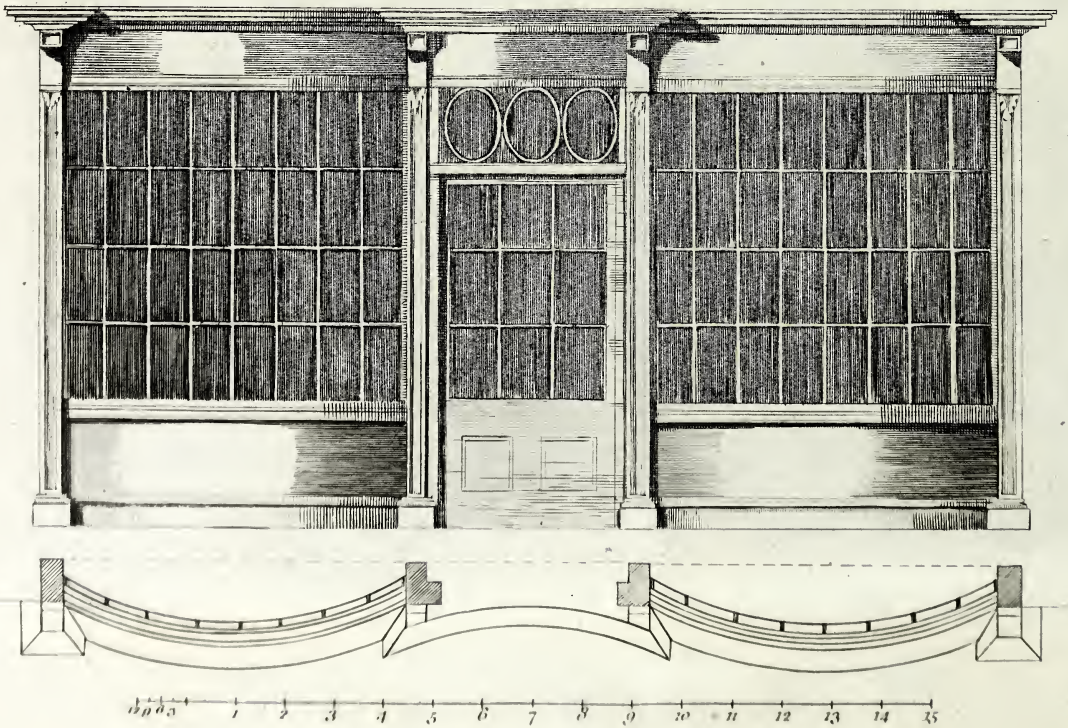
*Shop Front*






*Published Dec. 26. 1791 by W. Pain.*

## *Shop Front*




*Published Dec 26. 1791 by WTain.*

*Plate 143.*

# *Shop Front*

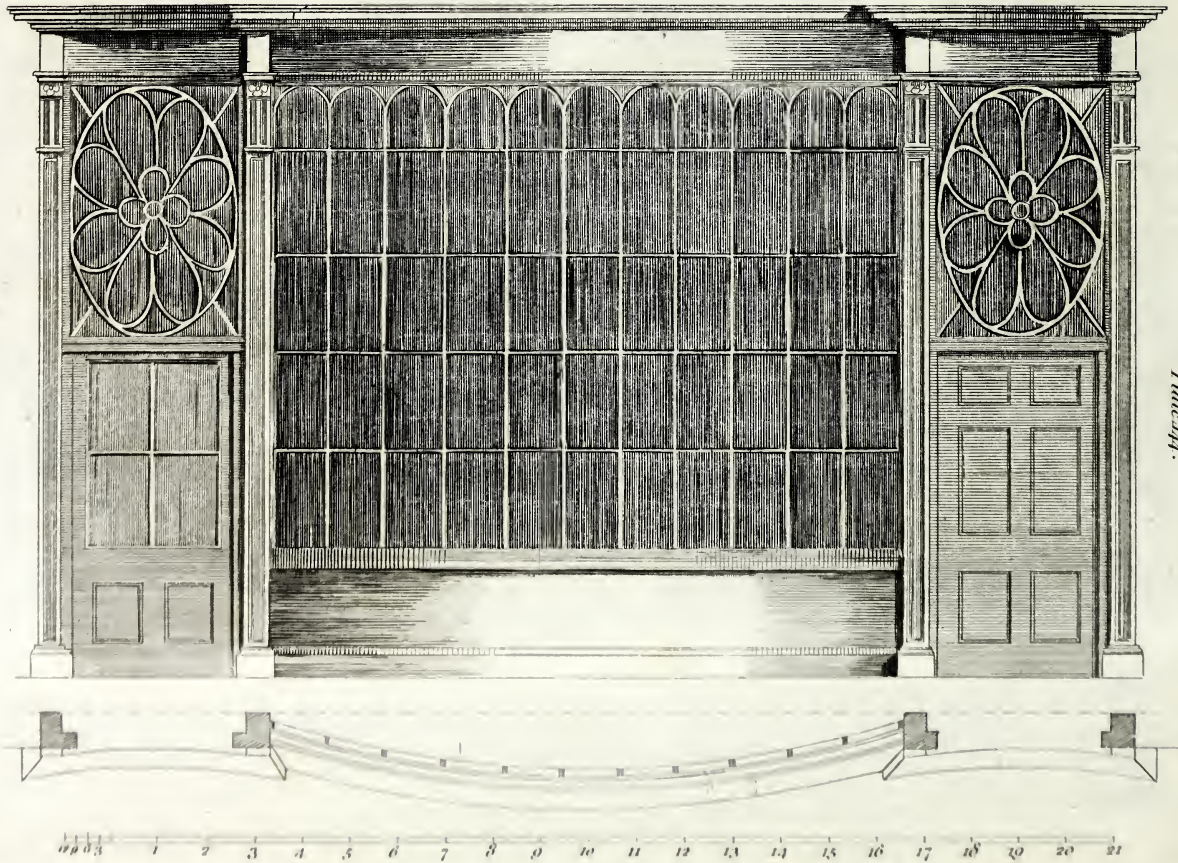
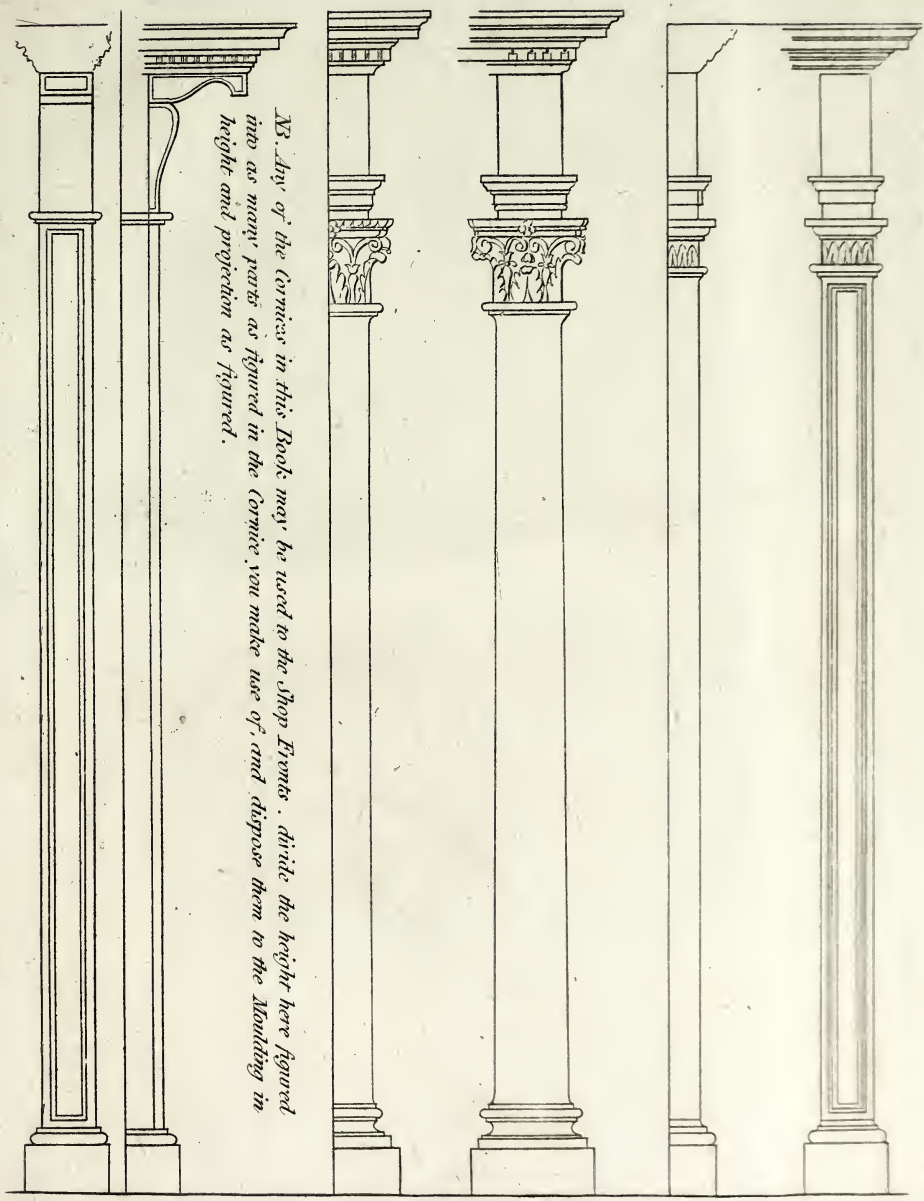


*Plate 44.*

*Published Dec.1.1791. by W.Pain.*

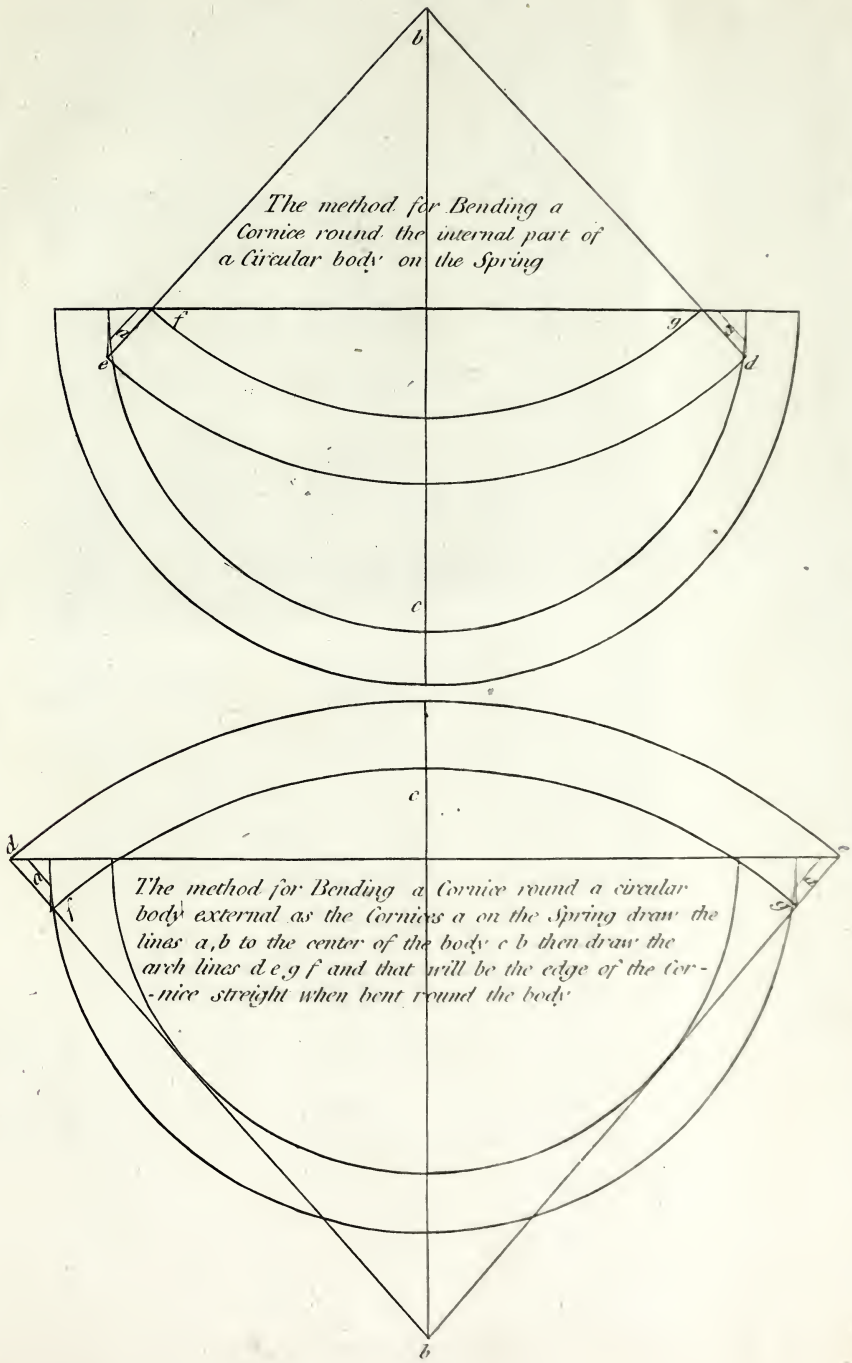


*NB. Any of the Cornices in this Book may be used to the Shop Fronts. divide the height here figured into as many parts as figured in the Cornice you make use of, and dispose them to the Moulding in height and projection as figured.*

12 9 6 3 1 2 3 4 5 6 7 8

*Front and profile of Columns & Pilasters for Shop Fronts*

*Plate 146.*


b
The method for Bending a Cornice round the internal part of a Circular body on the Spring
f
g
e
d
c
c
d
The method for Bending a Cornice round a circular body external as the Cornices a on the Spring draw the lines a, b to the center of the body c b then draw the arch lines d e, g f and that will be the edge of the Cornice streight when bent round the body
b